DOCUMENT RESUME

ED 127 109 SE 020 241

TITLE	The Gasoline Shortage: A National Perspective; A Background Paper, Committee on Interior and Insular Affairs, U.S. Senate, Ninety-Third Congress, First Session. [Committee Print]
INSTITUTION	Congress of the U.S., Washington, D.C. Senate Committee on Interior and Insular Affairs.
PUB DATE	73
NOTE	99p.; Not available in hard copy due to marginal legibility of original document
AVAILABLE FROM	Superintendent of Documents, U.S. Government Printing Office, Washington, D.C. 20402 (Stock Number 5270-01923, $0.65)
EDRS PRICE	MF-$0.83 Plus Postage. HC Not Available from EDRS.
DESCRIPTORS	Conservation (Environment); *Energy Conservation; Environment; Federal Legislation; *Fuel Consumption; Fuels; *Government Publications; Natural Resources; Policy; *Reports
IDENTIFIERS	*Gasoline

ABSTRACT

This publication is a background document for the National Fuels and Energy Policy Study authorized by Senate Resolution 45. The purpose of this report is to identify the issues, to describe the impact of present policy on gasoline supply and demand, and to suggest potential measures to reduce the shortfall. This document is published to assist members of the Committee on Interior and Insular Affairs, and other interested parties, in their understanding of the issues inherent in the formulation of a long-term National Energy Policy which assures the continued welfare of the Nation, including balanced growth, safeguarding and enhancing the quality of the environment, and national security. Topics under discussion include supply and demand; impact of shortages on the consumer, agriculture, and independent marketers; and proposed remedial actions. The concluding summary indicates that the gasoline shortage is the result of several interacting factors and will persist for some time. Two appendices contain energy related legislation and references. (Author/MA)

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93d Congress
1st Session

COMMITTEE PRINT

THE GASOLINE SHORTAGE: A NATIONAL PERSPECTIVE

A BACKGROUND PAPER

PREPARED BY THE

CONGRESSIONAL RESEARCH SERVICE

AT THE REQUEST OF

HENRY M. JACKSON, Chairman

COMMITTEE ON INTERIOR AND INSULAR AFFAIRS
UNITED STATES SENATE

PURSUANT TO

S. Res. 45
A NATIONAL FUELS AND ENERGY POLICY STUDY

Serial No. 93–14 (92–49)

Printed for the use of the Committee on Interior and Insular Affairs

U.S. GOVERNMENT PRINTING OFFICE
97-841 O WASHINGTON : 1973

For sale by the Superintendent of Documents, U.S. Government Printing Office
Washington, D.C. 20402 - Price 65 cents
Stock Number 5270-01923

ED127109

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SENATE RESOLUTION 45

National Fuels and Energy Policy Study

This publication is a background document for the National Fuels and Energy Policy Study authorized by Senate Resolution 45, introduced by Senators Jennings Randolph and Henry M. Jackson on February 4, 1971, and considered, amended, and agreed to by the Senate on May 3, 1971.

The resolution authorizes the Senate Interior and Insular Affairs Committee, and ex officio members of the Committees on Commerce and Public Works and the Joint Committee on Atomic Energy, to make a full and complete investigation and study of National Fuels and Energy Policies.

This document is published to assist members of the Committee and other interested parties in their understanding of the issues inherent in the formulation of a long-term National Energy Policy which assures the continued welfare of the Nation, including balance growth, safeguarding and enhancing the quality of the environment, and national security.

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MEMORANDUM OF THE CHAIRMAN

To Members and ex officio members of the Senate Committee on Interior and Insular Affairs' National Fuels and Energy Policy Study (S. Res. 45):

The summer of 1973 is expected to see the most severe gasoline shortages in American history. Spot fuel shortages occurred last winter and only abnormally warm weather averted more serious difficulties. Far more widespread shortages are now in prospect. Already, informal allocation of scarce fuels is taking place. Vital transportation and agricultural functions are being affected. Gasoline stations have closed. Independent refiners have run short of crude oil supplies. Units of local government—counties, cities, schools—are unable to get bids on fuels necessary for essential public services.

There is little chance that domestic refineries can catch up with spiraling demand. Gasoline stocks, for example, were down 12 percent in April from last year while demand is up at least 6 percent. On the average we are using 4 million barrels of gasoline more than we produce each week. Whether some or all of this deficit can be made up through imports is highly uncertain, especially in light of recent developments in the Mideast.

On June 5, 1973, the Senate passed S. 1570, "a bill to authorize the President of the United States to allocate crude oil and refined petroleum products to deal with existing or imminent shortages and dislocations in the national distribution system which jeopardize the public health, safety or welfare; to provide for the delegation of authority to the Secretary of the Interior; and for other purposes." That legislation, however, is a stopgap measure to keep essential public services supplied with fuel, to preserve the independent refining and marketing sectors, and to distribute shortages equitably among various regions of the country and various classes of consumers. To eliminate the shortages, while protecting consumers and the national security, will require a comprehensive legislative program both to increase and to conserve energy supplies. The National Fuels and Energy Policy Study, established by Senate Resolution 45 (92d Cong., first sess.) is in the process of developing that program.

The purpose of this report is to identify the issues, to describe the impact of present public policy on gasoline supply and demand, and to suggest potential measures to reduce the shortfall. This report was prepared at my request by David M. Lindahl, of the Environmental Policy Division, Congressional Research Service, Library of Congress, as part of the National Fuels and Energy Policy Study. I have directed that it be published at this time for the information of interested Senators and as background for the Committee's consideration of energy policy legislation.

HENRY M. JACKSON, *Chairman.*

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THE GASOLINE SHORTAGE: A NATIONAL PERSPECTIVE

By
David M. Lindahl
Analyst
Environmental Policy Division
June 19, 1973

CONTENTS

	Page
Introduction	1
Demand	3
Supply	9
Domestic Production	9
Foreign Imports	20
Refinery Capacity	29
Impact of Shortages	40
Impact on the Consumer	43
Impact on Agriculture	50
Impact on Independent Marketers	54
Proposed Remedial Actions	67
Proposals to Increase Supply	67
A Pass-through Allowance for Imported Crude Oil	67
Oil Exploration Assistance	68
North Slope Oil	68
Oil Depletion Allowance	68
Oil Storage Reserves	68
Development of Outer Continental Shelf	69
Oil Shale	69
Synthetic Oil	70
Increased Use of Coal	70
Increased Use of Nuclear Power	71
Efficiency of Industry Operations	71
Deregulation of Natural Gas	72
Proposals to Reduce Demand	73
Taxes	73
Four-Day Work Week	73
National Speed Limit	74
Mass Transit	74
Improved Building Design	74
Airline Efficiency	75
Energy Conservation	75
Summary	78
Appendix "A"	i
Appendix "B"	x

FIGURES

		Page
1.	Demand Gain Holds Key to Gasoline-shortage Severity	4
2.	A Look at Late-model Autos	6
3.	Newer Cars Get More Driving	6
4.	Consumption	11
5.	Proved Reserves	11
6.	Oil Supply	13
7.	Productive Capacity	13
8.	U.S. Crude Oil Production	14
9.	Exploration	16
10.	U.S. Petroleum Industry Costs and Income	16
11.	Federal Income Taxes of Largest Oil Companies 1971-	18
12.	Stock Position, Soaring Demand Show Why Gasoline Will be Tight	21
13.	Inventories	22
14.	Imports (Outlook)	23
15.	Imports (by thousand barrels and by country of origin)	25
16.	License-fee Schedule for Oil Imports	28
17.	Refinery Gasoline Yields	37
18.	Refining (Crude oil refinery runs)	37
19.	A Look at U.S. Gasoline-making Capability	38

FIGURES (cont.)

Page

20. Pirinc's 1973 Forecast for Gasoline ---------- 41

21. U.S. Motor Gasoline: Stocks, Demand, Supply ------ 42

22. Average Retail Price of Regular Gasoline ---------- 49

INTRODUCTION

The United States is currently confronted with one of the most serious resource problems it has ever faced. Gasoline, one of our most important fuels, is in critically short supply in many areas and the shortage is likely to worsen before it improves. Most Americans are confused by this situation because always before, except during wartime, there were plentiful supplies of gasoline. Gasoline retailers, in fact, would go to great lengths to attract customers to their stations. The day of the free gifts and gas wars appears to be over now, however, as many stations struggle to remain open. Independent marketers have been especially hard hit, and a large number have been forced to close for lack of supplies. At least 40% of the Nation's gas stations have been affected to some degree, and that percentage grows almost daily.

The reasons for the shortage are complex and it is not possible to single out any one cause. Rather, it is the result of several interrelated factors that have limited supply while increasing demand.

This report is intended to provide an overview of those factors, the extent of the shortage, and its impact on the country. This discussion of the problem is far from complete,

but it is hoped that the following report will provide a useful perspective for further investigation into the causes and possible solutions to this very important problem.

DEMAND

A factor of primary importance in the current gasoline shortage is the phenomenal increase in demand for gasoline and other petroleum products. In 1962 Americans used 66,255,943,000 gallons. By 1972 that demand had increased 54.9% to a record 102,615,535,000 gallons. Demand in 1973 is certain to be even greater. The Office of Emergency Preparedness (OEP) has reported that gasoline demand in the first quarter of 1973 was 5.5% higher than for the same period in 1972. If that demand increase were maintained throughout all of 1973, the shortage would be manageable. If, however, demand rises to 7% or more during the second and third quarters, serious shortages will probably be inevitable (Fig. 1). As recent experience has indicated, even a "modest" increase of 5-6% may result in local or "spot" shortages. If demand should rise to 7% or more, extensive shortages would occur. Persistence of that rate would create serious shortages nationwide.

The large increase in demand over the preceding years can be attributed to several factors. One, more new automobiles were sold in the past years than ever before, with sales in March reaching an all-time high. Many people who had delayed

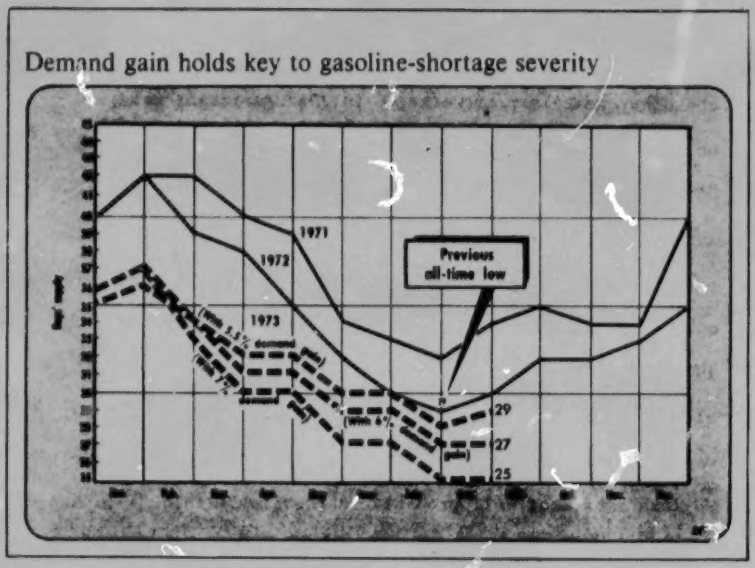
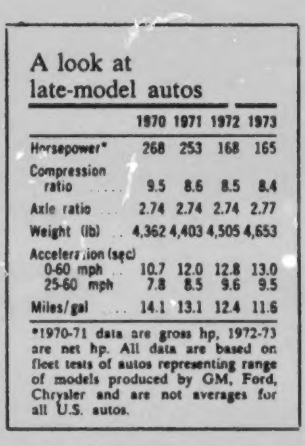


Fig. 1. (The Oil and Gas Journal, April 16, 1973, p. 55).

purchases for the past several years because of the depressed economy apparently bought new cars during this period. Two, most of these new cars are heavier, less efficient and equipped with energy-consuming accessories such as air conditioning (Fig. 2). The weight increase is due primarily to safety requirements, and the low engine efficiency is due to the lower compression ratios necessary to permit operation on low-lead gasoline. In addition, the new emission control devices on new cars decrease mileage by 7% or more. OEP estimates that these devices have increased annual gasoline consumption by more than 300,000 barrels and the percentage of emission-controlled cars increases daily. Air conditioning, when in operation, can impose an additional penalty of as much as 20%. Accordingly, gas mileage has dropped from an average of 14.1 in 1970 to 11.6 in 1973. Three, weather warmer than average for the first five months of 1973 has permitted more extensive auto use. Four, more fuel is required to meet the needs of an expanded economy. Five, the increasing amount of leisure time combined with greater affluence has been manifested largely in recreational activities requiring large amounts of gasoline, such as long auto trips, motorboating, snowmobiling, and international air travel.

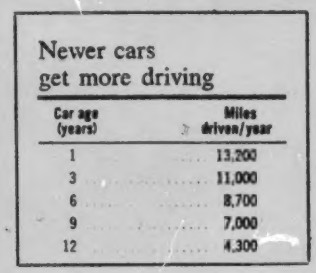


A look at late-model autos

	1970	1971	1972	1973
Horsepower*	268	253	168	165
Compression ratio	9.5	8.6	8.5	8.4
Axle ratio	2.74	2.74	2.74	2.77
Weight (lb)	4,362	4,403	4,505	4,653
Acceleration (sec)				
0-60 mph	10.7	12.0	12.8	13.0
25-60 mph	7.8	8.5	9.6	9.5
Miles/gal	14.1	13.1	12.4	11.6

*1970-71 data are gross hp, 1972-73 are net hp. All data are based on fleet tests of autos representing range of models produced by GM, Ford, Chrysler and are not averages for all U.S. autos.

Fig. 2 (The Oil and Gas Journal, April 16, 1973, p. 56).



Newer cars get more driving

Car age (years)	Miles driven/year
1	13,200
3	11,000
6	8,700
9	7,000
12	4,300

Fig. 3 (The Oil and Gas Journal, April 16, 1973, p. 56).

Of all these demand factors, the single most important appears to be the gasoline penalty imposed by anti-pollution devices. Because new cars are driven further than older ones each year (Fig. 3), the impact of these devices is greater than the percentage of new cars on the road would indicate. The Chase Manhattan Bank has estimated that one half of the expected growth in gasoline demand will be the result of emission controls on late model automobiles.

The Oil and Gas Journal (April 1973) reported the following results of a study of mileage loss in new cars:

> One private set of fleet tests indicated the mileage loss of 1971 models over 1970 at 7%, 1972 at 6%, and the 1973 over 1972 at 8%. This represented a cumulated mileage loss of 19%; but two direct comparative tests of 1973 models against 1970 models showed a loss ranging from 11% to 17% depending on the number of miles the 1970 models had been driven prior to testing.
>
> These data showed much greater mileage declines than governmental tests made for the Environmental Protection Agency which reported losses of only about 7%.

It may be possible to reduce demand through various conservation measures mentioned later in this report. Stephen Wakefield, Assistant Secretary of the Interior, has stated, for example, that if each motorist could save one gallon per week there would be no shortage. The elasticity of gasoline demand, however, is not clear. If demand proves to be inelastic, attempts to reduce demand artificially (such as increased gasoline taxes) may prove ineffective.

As serious as the situation appears to be in 1973, it could become worse in coming years if demand continues to climb. A study by the Petroleum Industry Research Foundation projects that the region east of the Rockies will need to import from 237,000 to 265,000 barrels of gasoline per day (b/d) in 1974 and 478,000 to 572,000 b/d in 1975. The report estimates that only 300,000 b/d can realistically be expected to be available at that time. This would result in a physical shortage of 3.5% of total demand in 1975.

SUPPLY

It is obvious that if gasoline supplies are insufficient much of the demand will necessarily not be met. The resulting economic dislocation, service interruption and general inconvenience make that possibility a decidedly unpopular prospect. Because of this, much emphasis is on increasing supply. Even if gasoline conservation is successful on a national scale, it is unlikely that it will fully counteract the growth rate in demand. Considerable attention must be given, therefore, to the gasoline supply situation.

Domestic Production

The United States has historically been a nation self-sufficient in petroleum production. This was naturally a desirable situation because of the security it provided in times of international conflict. To assure the continuance of a strong and viable petroleum industry and the steady flow of petroleum products to a rapidly growing market, the Federal Government provided the industry with numerous economic incentives to explore and develop new sources of oil. These incentives included the oil depletion allowance, intangible drilling expenses, foreign tax credits, and others that saved the industry billions of dollars in Federal taxes over the past several decades.

Until the 1950's, domestic production was sufficient to meet nearly all of the demand. The limited shortfall that

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existed, due mainly to distribution problems rather than lack of resources, was met with imports from Canada and Venezuela. By the late 1950's, however, imports from these areas had risen sharply due primarily to the fact that the foreign oil cost less per barrel than domestic oil. With the aims of strengthening national security and of maintaining a viable domestic oil industry, the Mandatory Oil Import Program was instituted in 1959. Strict limits were placed on imports of foreign crude oil and petroleum products. The rationale behind this system was that the U.S. had sufficient oil reserves to sustain production levels, that the domestic oil industry should be kept competitive.

For the first five or six years, the Program worked reasonably well. Consumers paid more for oil products than they would have if foreign oil had been available, but at least shortages were relatively rare. However, these high oil prices and the relatively low price of natural gas, which was placed under FPC regulation in 1954, led many industries to shift to natural gas to satisfy their major energy requirements (Fig. 4). Initially, there was no problem in supplying the large amounts of natural gas, but gas reserves steadily dwindled due to the heavy demand for a cheap fuel that was environmentally acceptable. Consequently, when service was curtailed in the late 1960's, many users, including electric utilities and heavy industries, switched back to oil to maintain their operations. This shift in demand from gas to oil placed an even heavier burden on domestic

CONSUMPTION

Year	Petroleum demand (Thous. B/D)			% U.S. energy consump.		
	Domestic	Export	Total	Liquid petroleum	Natural gas (dry)	Total
1953	7,624	401	8,025	42.7	21.6	64.3
1954	7,784	355	8,139	44.3	23.5	67.8
1955	8,493	388	8,881	43.8	23.1	66.9
1956	8,822	430	9,252	44.4	23.4	67.8
1957	8,860	566	9,426	44.4	24.8	69.2
1958	9,146	276	9,422	46.8	24.5	71.3
1959	9,496	253	9,749	45.3	27.6	72.9
1960	9,807	202	10,009	44.8	28.9	73.7
1961	9,985	174	10,159	44.9	29.0	73.9
1962	10,410	168	10,578	44.6	29.5	74.1
1963	10,733	228	10,961	44.2	29.8	74.0
1964	11,032	202	11,234	43.5	30.3	73.8
1965	11,523	187	11,710	43.6	30.2	73.8
1966	12,085	198	12,283	43.2	30.9	74.1
1967	12,560	307	12,876	43.5	31.3	74.8
1968	13,404	231	13,635	43.8	31.7	75.5
1969	14,148	233	14,381	43.7	32.4	76.1
1970	14,709	259	14,958	44.0	32.8	76.8
1971	15,225	224	15,449	44.4	33.2	77.5
1972	16,300	220	16,520	46.5	31.5	78.0

Fig. 4. (U.S. Petroleum Statistics 1973, Independent Petroleum Association of America, 1973).

PROVED RESERVES
(Liquid hydrocarbons and natural gas)

Jan. 1st	Liquid hydrocarbons (Billion barrels)			Natural gas (Trillion cu. ft.)	Reserve/production ratio		
	Crude oil	Gas liquids	Total liquids		Crude oil	Total liquid	Nat. gas
1953	27,961	4,997	32,958	198.6	12.4	13.1	23.1
1954	28,945	5,438	34,383	210.1	12.5	13.2	22.9
1955	29,561	5,244	34,805	210.6	13.1	13.6	22.5
1956	30,012	5,439	35,451	222.5	12.4	12.8	22.1
1957	30,435	5,902	36,337	236.5	11.9	12.5	21.8
1958	30,300	5,687	35,987	245.2	11.8	12.4	21.4
1959	30,536	6,204	36,740	252.8	12.9	13.5	22.1
1960	31,719	6,522	38,241	261.2	12.8	13.3	21.1
1961	31,613	6,816	38,429	262.3	12.8	13.2	20.1
1962	31,786	7,049	38,835	266.3	12.6	13.0	19.9
1963	31,389	7,312	38,701	272.3	12.3	12.8	20.0
1964	30,970	7,674	38,644	276.2	11.9	12.4	19.8
1965	30,991	7,747	38,738	281.3	11.7	12.2	18.3
1966	31,352	8,024	39,376	288.5	11.7	12.1	17.6
1967	31,452	8,329	39,781	299.3	11.0	11.5	16.5
1968	31,377	8,614	39,991	292.9	10.3	10.9	15.9
1969	30,707	8,598	39,305	287.4	9.8	10.3	14.8
1970	29,632	8,143	37,775	275.1	9.3	9.8	13.3
1971*	29,401	7,703	37,104	264.7	8.8	9.1	12.1
1972*	28,463	7,304	35,767	252.8	8.7	8.9	11.5

*Excludes 9.6 billion barrels of crude oil and 26 trillion cubic feet of natural gas added for Alaskan North Slope.

Fig. 5. (U.S. Petroleum Statistics, 1973, Independent Petroleum Association of America, 1973).

production. By the late 1960's chronic shortages of fuel oil had developed in much of New England and parts of the Midwest. By the winter of 1972-1973, the shortage had become critical.

To ease the situation, President Nixon announced occasional increases in the amount of oil that was permitted to enter the country under the Oil Support Program. While these stopgap measures were useful, it was apparent that the problem would reappear if the system were not changed. Finally, Mr. Nixon, on April 18, 1973, suspended the quota system, an action that had been proposed by his Cabinet Task Force three years earlier. The quota system was replaced with a fee-license system that permits unlimited imports to compete directly with U.S. oil.

These imports are necessary because at present the U.S. has no spare productive capacity. Production limits on domestic wells have been removed, and they are operating at maximum levels. The proven reserves of crude oil in the United States are the lowest they have been since 1953 (Fig. 5). If no new crude oil were found domestically, the U.S. would have, at the present rate of consumption, an oil supply of only 8.7 years. Last year, for example, the U.S. consumed over 12% of its proven reserves, excluding Alaska. Domestic oil production has increased slightly over last year (Fig. 6), but this was accomplished at the expense of productive capacity, which had declined by 519,000 b/d by the end of 1972 (Fig. 7). As the graph in Fig. 8 shows, it is unlikely that domestic production will increase, and it is

OIL SUPPLY (Domestic production and total imports, thous. bbl. daily)

Year	Domestic production			Imports		Total
	Crude oil	Gas liquids	Total	Total	% of Supply	
1953	6,458	655	7,113	1,034	12.7	8,147
1954	6,343	692	7,035	1,052	13.0	8,087
1955	6,807	772	7,579	1,248	14.1	8,827
1956	7,151	801	7,952	1,436	15.2	9,388
1957	7,170	809	7,979	1,574	16.4	9,553
1958	6,710	808	7,518	1,700	18.3	9,218
1959	7,053	880	7,933	1,780	18.2	9,713
1960	7,035	930	7,966	1,815	18.3	9,780
1961	7,183	991	8,174	1,917	18.7	10,091
1962	7,332	1,021	8,353	2,082	19.8	10,435
1963	7,543	1,098	8,640	2,123	19.4	10,763
1964	7,614	1,155	8,769	2,298	20.1	11,067
1965	7,804	1,210	9,014	2,468	21.1	11,482
1966	8,295	1,284	9,579	2,573	20.8	12,152
1967	8,810	1,410	10,220	2,537	19.4	12,757
1968	9,096	1,503	10,599	2,840	20.6	13,439
1969	9,208	1,599	10,827	3,186	22.1	13,993
1970	9,637	1,660	11,297	3,419	22.7	14,716
1971	9,463	1,692	11,155	3,926	26.0	15,081
1972	9,465	1,735	11,200	4,700	29.6	15,900

Fig. 6. (U.S. Petroleum Statistics 1973).

PRODUCTIVE CAPACITY (Crude oil and natural gas liquids, thous. bbl. daily)

Jan. 1st	Productive capacity			Crude oil capacity		
	Crude oil	Gas liquids	Total	Yearly change	Spare	% Spare
1964	7,926	744	8,670		1,583	20.0
1965	8,442	778	9,220	+516	1,635	19.4
1966	8,929	825	9,754	+487	1,778	19.9
1967	9,250	850	10,100	+321	2,080	22.5
1968	9,493	880	10,373	+243	2,783	29.3
1969	9,686	920	10,606	+163	2,863	27.0
1970	9,708	967	10,675	+ 32	2,673	27.3
1971	9,892	1,041	10,933	+184	2,700	27.4
1972	10,081	1,049	11,130	+199	2,749	27.3
1973	10,169	1,090	11,259	+ 88	2,627	25.8
1974	10,286	1,177	11,463	+117	2,672	26.8
1975	10,534	1,222	11,756	+248	2,736	25.9
1976	10,743	1,281	12,024	+209	2,448	22.8
1977	11,000	1,455	12,455	+307	2,240	20.3
1978	11,218	1,488	12,705	+188	2,122	18.9
1979	11,137	1,586	12,723	− 81	1,886	17.1
1970	11,013	1,676	12,689	−124	1,376	12.1
1971	10,794	1,760	12,554	−219	1,331	12.3
1972	10,246	1,789	12,035	−519	692	6.8

Fig. 7. (U.S. Petroleum Statistics 1973).

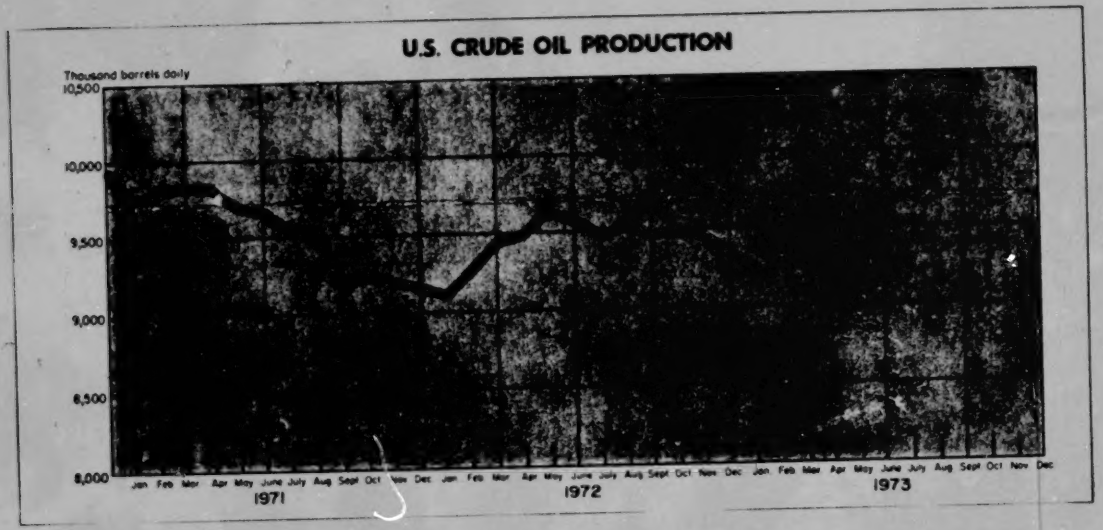

Fig. 8. (Supply and Demand Outlook, Independent Petroleum Association of America, April 1973).

very possible that it might decline. In 1972, for example, the U.S. produced 3.459 billion barrels of crude oil, compared to 3.454 billion in 1971, an increase of only 1/7 of 1%. World production in 1972, including the U.S., rose from 14.554 billion barrels to 15.418 billion, an increase of about 6%.

In spite of the numerous tax advantages that are provided to the petroleum industry, exploratory drilling has declined steadily since the early 1950's. The industry claims that exploration efforts have dropped 50% in the last 16 years because of high costs, government control of natural gas prices, increased taxes and environmental opposition (Fig. 9). According to Petroleum Outlook (May 1973), the pre-tax profit on a $3.04 barrel of crude is only 38¢, an average annual return of only 2% over a ten-year period (Fig. 10). Even though the most accessible oil has already been found, it is probable that substantial quantities of oil remain to be discovered, although the costs are certain to be higher because of inflation and the added difficulty of development. The petroleum industry has claimed that deregulation of natural gas prices would stimulate production of new gas which would, in turn, reduce the demand for oil products. There is no certainty, however, that the increase in supply of either resource would be proportional to the price increases.

EXPLORATION (Geophysical crew activity, acreage under lease, wildcat wells drilled)

Year	Crew months worked	Total acres leased Jan. 1 (Thousands)	Wildcat wells		
			Total	Dry	% Dry
1952	8,923	273,067	12,425	10,098	81.2
1953	8,675	N.A.	13,313	10,633	79.9
1954	7,969	315,584	13,108	10,389	79.3
1955	8,240	N.A.	14,947	11,832	79.2
1956	7,857	383,863	16,207	13,118	80.9
1957	7,242	N.A.	14,714	11,904	80.9
1958	5,731	371,146	13,199	10,632	80.6
1959	5,696	382,607	13,191	10,577	80.2
1960	5,207	424,251	11,704	9,515	81.3
1961	5,024	416,871	10,992	9,072	82.1
1962	4,731	408,870	10,787	8,815	81.6
1963	4,174	387,457	10,664	8,686	81.5
1964	4,408	372,408	10,747	8,951	83.3
1965	4,47	375,306	9,466	8,005	84.6
1966	3,825	350,895	10,213	8,709	84.4
1967	3,496	333,858	9,578	7,860	82.9
1968	3,390	325,106	8,806	7,439	84.5
1969	3,259	332,605	9,701	8,061	83.5
1970	2,521	343,213	7,683	6,427	83.5
1971	2,760	337,947	6,922	5,834	84.3
1972	N.A.	350,725	7,587	6,293	82.9

Fig. 9. (U.S. Petroleum Statistics 1973, Independent Petroleum Association of America, 1973).

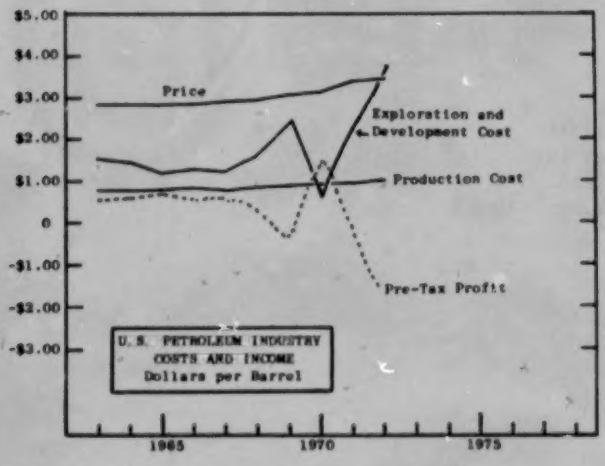

Fig. 10. (Petroleum Outlook, May 1973, John S. Herold, Inc., p. 37).

Increased taxes have been paid by the oil companies as a result of the decrease in the oil depletion allowance from 27½% to 22% in the 1969 Tax Reform Act. The petroleum industry has claimed that this has restricted its ability to increase production, but even at 22%, it is a much greater tax advantage than that possessed by any other domestic industry. In 1971 the major oil companies paid corporate income taxes averaging only 6.7% of their net income, and some were as low as 1.6% (Fig. 11). The oil industry has claimed, however, that profits are below the averages of most industries when related to return on assets, gross revenue, or invested capital. Nevertheless, most oil company profits are up, in some cases they are record profits. In addition, there is no requirement that the tax credits be used in exploration and development of new sources, the purpose for which the extra corporate revenue was intended.

There are only two areas that appear to hold much promise as potential sources of domestic oil. These are the Alaskan North Slope and the Atlantic Continental Shelf (including the Gulf of Mexico). North Slope oil is part of a proven recoverable reserve that could be quickly brought into production. It is being delayed, however, by a dispute over the routing of the pipeline. The oil companies with North

FEDERAL INCOME TAXES OF LARGEST OIL COMPANIES 1971

	[illegible] income before tax	Federal tax percent
Standard (New Jersey)	$2,726,717,000	7.7
Texaco	1,319,468,000	7.3
Gulf	1,324,914,000	7.5
Mobil	1,152,639,000	6.4
Standard (California)	955,692,000	1.6
Standard (Indiana)	437,021,000	14.5
Shell	292,175,000	14.9
Arco	295,245,000	3.9
Phillips	217,303,000	15.0
Sun	236,078,000	17.4
Union (California)	147,357,000	7.9
Amerada Hess	240,603,000	8.1
Getty	208,439,000	15.1
Conoco	202,428,000	2.1
Cities Service	117,574,000	8.4
Marathon	229,380,000	6.1
Standard (Ohio)	68,462,000	2.0
Ashland	51,780,000	46.3
Total	10,215,685,000	6.7

Fig. 11. Snyder, Gene (Rep.). "Gasoline Rationing by the End of 1973". Congressional Record, June 7, 1973, p. E3822.

Slope interests want the pipeline to be constructed across Alaska to the port of Valdez, where the oil would be shipped by tanker to U.S. ports on the West Coast. The alternative is a longer route that would deliver the oil to the Mid-west, which has recently had severe energy shortages. Regardless of the route finally chosen, the oil will find a ready market. Unfortunately, the North Slope oil will probably provide only about 10% of the Nation's oil needs when the pipeline is in full operation. Additional exploration may justify another pipeline which could double that percentage.

Offshore oil is already a significant factor in the petroleum market. By 1985 it may provide 25% of the Nation's oil needs. Unfortunately, delays in offshore leasing have resulted from uncertainty over leasing procedures and from several major oil spills, fires, and blowouts. A consequence of these disasters was that environmental impact statements had to be revised and resubmitted for new leases. Now that a compromise agreement has been reached between environmental groups, government and the oil companies, Gulf lease sales are proceeding. The oil companies do have a major problem in raising capital to meet the high cost of drilling in deeper water and of building larger numbers of platforms.

The heavy demand for fuel oil last winter contributed to the present shortage of gasoline. The petroleum industry normally builds up its inventory for a product when the seasonal demand for it is low. The emphasis that was placed on fuel oil last winter, however, prevented the buildup of gasoline supplies to meet the expected demand for the summer of 1973 (Figs. 12 and 13). Consequently, gasoline inventories as of March 31 were over 25 million barrels lower than the previous year (a 10.6% drop), while gasoline demand was 360,000 b/d higher (an increase of 6.1%). For the same reason, an emphasis on gasoline production will likely result in another fuel oil crisis this winter.

Foreign Imports

The decline of domestic production has forced the United States to rely increasingly upon foreign countries to supply the extra oil. This dependence has accelerated rapidly in recent years and the trend shows no sign of abating. In 1956, oil imports supplied 16% of the Nation's oil, a figure that Administration officials felt was tolerable. By 1972, this figure had jumped to 29% and may rise to 35% in 1973. The Independent Petroleum Association of America has predicted that the U.S. will import 3,098,000 b/d in 1973, an increase of 882,000 b/d (40%) over 1972 (Fig. 14). By 1980, less than seven years from now, foreign oil imports are likely to account

Stock position, soaring demand show why gasoline will be tight

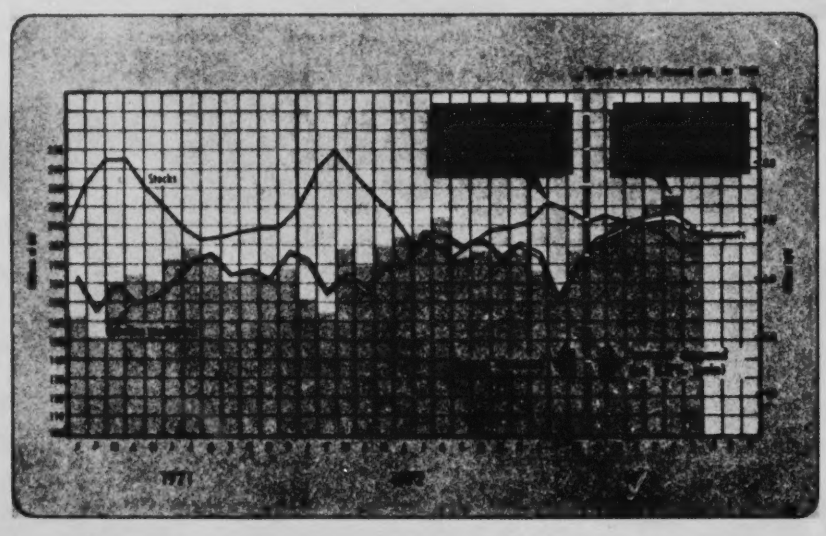

Fig. 12 (The Oil and Gas Journal, April 16, 1973, p. 57).

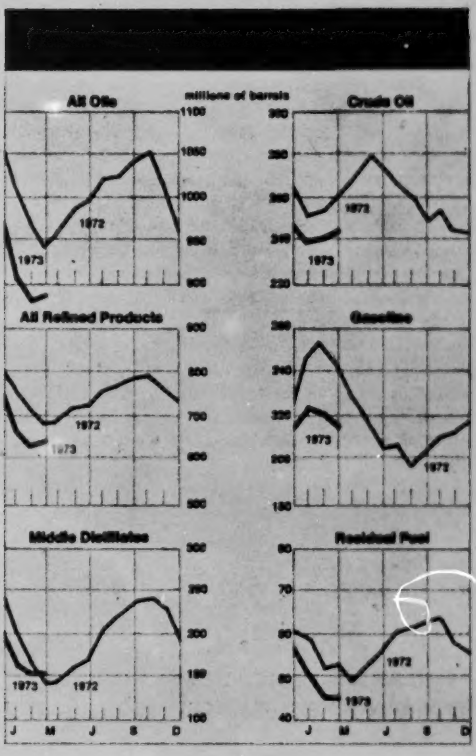

Fig. 13. (The Petroleum Situation, The Chase Manhattan Bank, April 30, 1973).

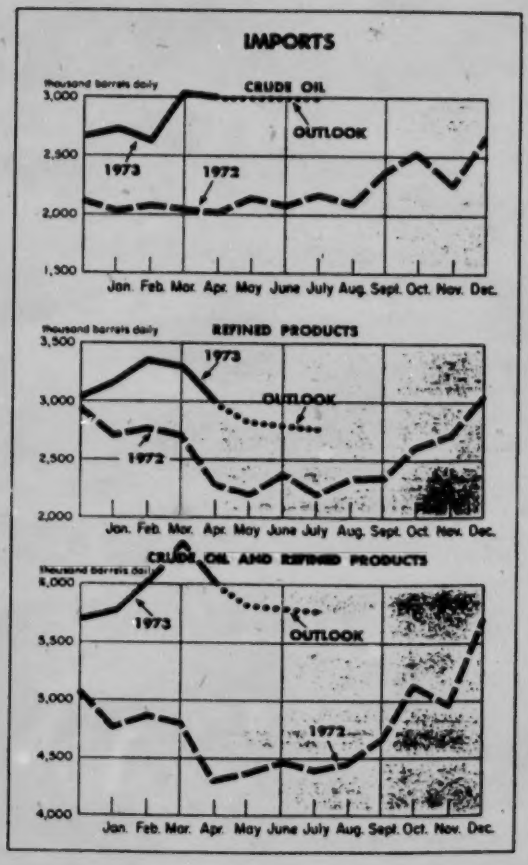

Fig. 14. (Supply and Demand Outlook, Independent Petroleum Association of America, April 1973).

for over 50% of demand, and may be as high as 19.2 million barrels per day.

One of the obvious disadvantages of importing oil is the inherent risk to national security. There is considerable strategic danger in having an economy and a defense establishment that operates on supplies of foreign petroleum that could be terminated at any moment. For this reason, preference was given to oil from Canada and Venezuela, the other two major producers in the Western Hemisphere. It was believed that these countries would generally be more cooperative during periods of international crisis and that the sea lanes through the Caribbean would be more defensible. Imports from these countries, as shown in Fig. 15, grew rapidly. Imports from Canada, for example, skyrocketed from 8,000 b/d in 1953 to 1,105,000 b/d in 1972. Much of that increase, of course, represented the development of new oil fields with the help of American technology and capital. The oil industry of Venezuela was already well established by 1953, so the rise in imports from there to the U.S. is not so steep.

Even though many large U.S. oil companies had extensive operations in foreign countries such as Saudi Arabia, Indonesia, and Iran, very little oil was imported to the U.S. from these sources. Most of it was sent to western Europe and Japan because large markets existed there and because the Mandatory Oil Import Program strictly limited oil imports to the United States from areas other than the preferred sources of Canada and Venezuela.

TOTAL IMPORTS
(Thousand barrels daily)

Year	Crude oil	Light products	Sub total	Residual fuel	Total imports	Percent of total domestic production
1953	648	76	674	360	1,034	14.5
1954	656	42	698	354	1,052	15.0
1955	782	49	831	417	1,248	16.5
1956	934	57	991	445	1,436	18.1
1957	1,023	76	1,099	475	1,574	19.7
1958	953	248	1,201	499	1,700	22.6
1959	986	284	1,170	610	1,780	22.3
1960	1,015	163	1,178	637	1,815	22.8
1961	1,045	206	1,251	666	1,917	23.5
1962	1,126	232	1,358	724	2,082	24.9
1963	1,131	245	1,376	747	2,123	24.6
1964	1,190	252	1,450	800	2,250	25.7
1965	1,238	286	1,524	944	2,468	27.4
1966	1,225	316	1,541	1,032	2,573	26.9
1967	1,128	324	1,452	1,085	2,537	24.8
1968	1,290	430	1,720	1,120	2,840	26.8
1969	1,409	492	1,901	1,265	3,166	29.2
1970	1,324	567	1,891	1,528	3,419	30.3
1971	1,681	662	2,343	1,583	3,926	35.2
1972	2,185	760	2,945	1,755	4,700	42.0

TOTAL IMPORTS
(By country of origin, thous. bbl. daily)

Year	Western Hemisphere				Eastern Hemisphere			
	Canada	Venezuela	Other	W. Hem. total	Mid-east	Africa	Other	E. Hem. total
1953	8	451	311	770	226	—	38	264
1954	8	476	312	796	219	—	37	256
1955	48	547	344	939	277	—	32	309
1956	123	638	349	1,170	290	—	36	326
1957	150	754	353	1,266	244	—	84	328
1958	87	699	469	1,255	361	9	75	445
1959	161	781	473	1,355	350	5	70	425
1960	122	832	445	1,399	332	5	79	416
1961	193	815	491	1,499	344	7	67	418
1962	250	906	505	1,661	315	31	75	421
1963	265	900	558	1,723	303	31	68	480
1964	290	934	584	1,817	317	54	70	441
1965	323	995	651	1,969	360	69	70	499
1966	384	1,018	674	2,076	318	87	92	497
1967	450	937	757	2,144	299	38	125	393
1968	507	886	871	2,264	219	150	198	576
1969	608	875	999	2,482	193	229	262	684
1970	766	980	1,102	2,858	184	127	250	561
1971	857	1,019	1,195	3,071	378	204	267	849
1972	1,105	965	1,320	3,390	460	485	365	1,310

Fig. 15. (U.S. Petroleum Statistics 1973, Independent Petroleum Association of America, 1973.)

517-309 O - 73 - 3

As supply began to fall further behind demand, imports from those two countries were increased. Recently, however, both of these sources have announced limits on the amount of oil they intend to export. This was prompted in part by a desire to assure themselves of a continuing supply of oil for their own development and to preserve supplies for the future when demand will have driven prices higher.

In spite of the increasing demand for oil and the growing reluctance of foreign countries to sell it, there has traditionally been considerable opposition to foreign oil imports. These objections are based primarily on the danger to national security and the impact upon the balance of payments. There is already considerable evidence to substantiate both of these fears. Middle Eastern oil countries have repeatedly threatened to limit or shut off oil supplies to the U.S. if American policies toward Israel were not moderated. The impact on the balance of payments will be considerable because of the large foreign purchases that will be necessary. By 1980 the U.S. may be importing $30 billion worth of oil. Without offsetting purchases in the U.S., this imbalance could result in major economic problems. Some producing States, notably Saudi Arabia, have shown an interest in investing this revenue in the downstream marketing of products in the U.S. This would have the dual advantage of keeping American money in the U.S.

and reducing the likelihood of a supply shutoff. The U.S. presently imports less than 3% of its oil from the Middle East, but almost all of the projected increases in imports will come from there. Consequently, such participation arrangements may be necessary.

It had been apparent for some time prior to April 18, when the President officially suspended the Mandatory Oil Import Program, that increased imports were inevitable and that a more responsive system was needed. He not only abolished the quotas but also the import duties ranging from 10.5¢/barrel for crude oil to 52¢/barrel for gasoline A new license-fee system replaced the old Program. Imports above the January 1973 quota for crude and most products and the April 1, 1973, quota for residual fuel oil are subject to the fees shown in Fig.16. Existing quotas may be imported free in the case of refiners, petrochemical plant operators, terminal operators, and others. These fee-exempt quotas will be phased out over a seven-year period starting with a 10% reduction in 1974. At that time all imports will be subject to license fees. While these fees will raise slightly the cost of crude oil and products, it permits unlimited imports of oil from any source willing to supply it. The result will almost certainly be a net increase in the availability of oil products, including gasoline, on the U.S. market. Needed

License-fee schedule for oil imports

	(cents/bbl)					
	May 1973	Oct. 1973	May 1974	Oct. 1974	May 1975	Oct. 1975
Crude oil	10.5	13	15.5	18	21	21
Residual fuel oil, No. 2 fuel oil, other distillates, and unfinished oils	15	20	30	42	52	63
Gasoline and other products	52	54.5	57	59.5	63	63

Fig. 16. (Oil and Gas Journal, April 23, 1973, p. 20.)

immediately will be imports ranging from 100,000 b/d to 200,000 b/d, if available tankers can be found to transport that large amount on short notice.

Some difficulty may be expected in obtaining gasoline from foreign refiners. Europe may be able to supply U.S. needs this summer, but because of its very shallow gasoline pool and its own soaring demand, the long-term supply prospects are not favorable. The total refining capacity in western Europe (Belgium, Germany, France, U.K., Italy, and the Netherlands) is only 14.4 million b/d, of which only 14.8% can be made into gasoline. Many European countries require long term product reserves for emergencies and most refiners would be reluctant to draw upon these for export. The gasoline that will become available will command a premium price. Generally it takes about three months from the order placement to delivery, a time span that may prove too long to provide European gasoline supplements this summer.

Refinery Capacity

One of the major factors limiting gasoline supply is the Nation's inadequate refining capacity. At present there are no refineries under construction anywhere in the country. Only one has been built in the United States in the last three years, and none have been built on the East Coast in the past 15 years. As a result, the pressure on existing refineries has

been made that much greater. Refining capacity has dropped steadily relative to demand. Last year, for example, demand rose nearly 7% while refining capacity (mostly plant expansion) grew only 2.2%.

At a time when domestic refining capacity is critically short, it may seem paradoxical that refineries in many areas of the Midwest are operating at very low levels and, in fact, some have been forced to close. The reason for this can be traced to the decline in domestic production of crude oil. Most of these refineries were independently operated and were designed to operate on domestic "sweet" (low-sulphur) crude. In many cases these independent refiners did not have their own production facilities, but depended instead on supplies of crude from the major producers. The incentive for such trades was provided by the Mandatory Oil Import Program which provided "import tickets" to the independents. These tickets permitted the duty-free import of low-cost foreign crude. Because of the cost differential between foreign and domestic crude, these tickets had monetary value to the large international oil companies with overseas operations. They would trade domestic crude oil to the independents for the import tickets which would allow the majors to import their foreign oil. This system was unbalanced by the decline in domestic production. The majors no longer had a surplus to trade, and

in some cases had to curtail their own refinery operations. The independents not located near the coasts had no alternative sources except for crude from Canada, quantities of which may be limited by the Canadian government and by pipeline capacity. Because most of these independent refineries previously had no need for foreign crude, no pipelines had been built to carry the oil to inland refineries.

One action taken by the Administration to ease the supply situation for independent refineries was described by Darrell Trent of OEP:

> The Federal Government obtains royalties in the form of either dollars or crude oil from offshore areas which it leases to private companies. To help the short-run situation, the Government has been taking the royalty payment in the form of petroleum and making this oil available to hard-pressed independent refineries. Since January of this year, contracts for approximately 70,000 barrels per day have been signed, and we expect another 80 to 100 thousand barrels per day to be made available from that source.1/

The new system will maintain to some degree the special treatment of independent refiners and marketers by providing "tickets" that will allow imports without payment of the fees These tickets will initially not be worth as much as the tickets under the old quota program but, to the extent that domestic crude oil is available, they will have some trading value.

1/ Darrell M. Trent, Acting Director, Office of Emergency Preparedness, statement before the Senate Committee on Banking, Housing and Urban Affairs Subcommittee on Small Business, May 10, 1973.

These tickets are supposed to be phased out after seven years, but they may be retained if the situation warrants. The amount of the fee can also be raised to improve the trading value of the tickets. To spur refinery construction, refiners will obtain duty-free quotas equal to 75% of new capacity for five years.

Some U.S. refineries could operate at higher percentages of operable capacities. The worldwide shortage of sweet crude, however, precludes this. In the first quarter of 1971, Texas Gulf Coast refineries, which produce over one-third of the Nation's gasoline, were operating at only 85.5% of capacity. Competition from European refiners for this type of oil has made it very expensive and in many cases virtually unobtainable. The Europeans are using the oil to make low sulphur residual fuel to avoid the cost of installing expensive hydrodesulphurization equipment. They are reluctant to rebuild their refineries to operate on "sour" crude because they expect quantities of "sweet" crude from the North Sea to be available within a few years.

In the United States there are presently about 250 refineries operating at about 91% of their total capacity, processing 13.4 million barrels of crude each day. Most refineries can operate at full capacities only for short periods, consequently a capacity percentage in the low 90's is essentially full capacity. There are 30 refineries with a total capacity of 400,000 b/d

that are inoperable and in need of extensive renovation. There are fewer refineries today than there were in previous years. In 1936 there were 632 refineries; in 1959 this figure had dropped to 315, as small and uneconomic plants were closed. To be economic today a refinery must have a capacity of at least 100,000 b/d, although 160,000 is the preferred minimum. A refinery of that size requires 600 acres of land (approximately one square mile) and costs upwards of $200 million. To construct all of the refineries needed over the next twelve years, an investment of $11 billion will be required, according to the American Petroleum Institute.

The National Petroleum Council (NPC) has estimated that by 1975 the shortfall of domestic refining capacity will be about 4.8 million b/d (25% of the total capacity required). If demand is to be met in 1985, an additional nine million b/d of refinery capacity will be needed, the equivalent of sixty 150,000 b/d refineries. If product imports are eliminated, this requirement would be 12 million b/d. NPC based these estimates on growth rates of 5.7% from 1971 to 1975, 2.7% from 1976 to 1980, and 3% from 1981 to 1985.

To justify the extremely high capital investment required to construct refineries, the oil industry must be assured of a steady throughput. In the past, however, the oil import quotas were set at such a low level relative to rising demand

and exceptions to the quotas were frequently so unpredictable that efficient refinery operation could not be guaranteed. This situation effectively discouraged new refinery construction. Now that the quota system has been scrapped in favor of the fee system, a number of oil companies have announced plans to build new refineries. Unfortunately, it takes 2½ to 4 years to build a major refinery, so immediate relief from this source is not likely.

Siting is a major obstacle to new refinery construction that remains a problem. Delaware, for example, has banned refinery construction and other heavy industrial installations along its coasts. Sites in other areas have also been contested on environmental grounds. It is important that new refineries be built near the sea so that very large crude carriers (VLCC's) will have access to them. Coastal locations, particularly in the East, are desirable because of their location near major markets.

Many existing refineries will also have to be renovated. Originally designed to be operated on sweet crude which is currently in short supply worldwide, most refineries will have to be adapted to sour (high-sulfur) crude which is relatively plentiful. If this transformation of existing refineries cannot be accomplished, effective refinery capacity may be even less than it is now.

Because of the shortage of refining capacity in the United States, many oil products are refined abroad for importation to

this country. The Interior Department's Office of Oil and Gas has estimated that 1,720,000 b/d of refining capacity has been "exported" to foreign locations. This represents a loss of employment in the U.S. of approximately 108,000 jobs, as well as an increase in our dependence on foreign sources. Because of the increased value added to the product by the processing, the balance of payments is aggravated even further. Most of the new refineries have been built in the Bahamas, Caribbean, Middle East, eastern Canada, and northern Italy. These refineries were attracted by proximity to large producing fields guaranteeing constant throughput, low taxes or tax exemptions, low labor costs, deepwater ports, and less stringent environmental regulations. Some producing areas have begun to require that a certain amount of their exports be processed locally to provide employment for their citizens.

The export of refinery capacity has been accelerated by siting problems. Even though modern refineries are not nearly as objectionable as were earlier refineries, very few communities have shown a willingness to permit construction. The added costs of pollution controls, siting delays, court injunctions, coastal zone regulations and other problems have led many companies to build their refineries outside the borders of the United States.

Another factor inhibiting refinery construction has been the changing specifications for gasoline. Because decisions are made for five to ten-year periods, refiners are reluctant to build refineries designed to produce high-octane unleaded gasoline only to have the emphasis changed to low-octane (below 90) at a later date.

Refining capacity will be of critical importance in meeting the gasoline shortage this summer. Because of the limited capacity, refineries will have to operate at levels averaging more than 91% and yielding at least 48% gasoline (Figs. 17, 18, and 19). The Oil and Gas Journal (April 16, 1973) made the following analysis of the situation:

> Journal data place refinery crude capacity at 13,383,000 b/d (API estimate of capacity is 13,620,000 b/d, some 237,000 b/d or 1.7% higher and thus will show greater production at lower capacity levels).
>
> The study shows that with a 6% jump in demand if refiners on a national scale operate at 90-92% of capacity and get a gasoline yield of 46-46.5%, they must import 125,000 b/d of gasoline and draw down stocks to 27.4 days' supply at the end of September, a perilously low point.
>
> Refiners can avoid a stock drawdown with yields of 47-48% and imports of 125,000 b/d or yields of 48-48.5% with little imports. If demand should average a 7% gain, yields would have to reach 47.5-48.5% with imports and 48.5-49% with no imports.
>
> If crude supplies should limit refinery operations to 89% of capacity, the drain on inventories would be almost intolerable, and the need for imports could exceed available supplies.

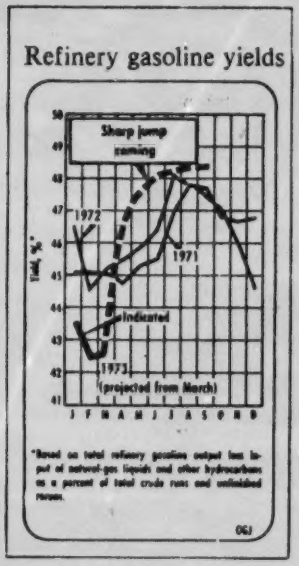

Fig. 17. (The Oil and Gas Journal, April 16, 1973, p. 58).

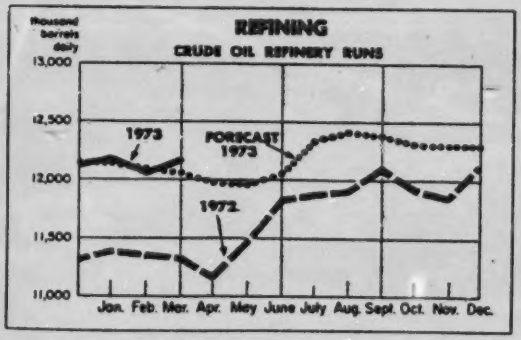

Fig. 18. (Supply and Demand Outlook, Independent Petroleum Association of America, April 1973).

517-309 O - 73 - 4

A look at U.S. gasoline-making capability

Yield	Refinery gasoline (b/d)	Natural-gas liquids and other hydrocarbons blended (b/d)	Total production (b/d)
A. AT 90% OF CRUDE CAPACITY*			
(12,045,000 b/d of crude and 146,000 b/d rerun for total refinery input of 12,191,000 b/d)			
45%	5,486,000	856,000	6,342,000
46%	5,608,000	875,000	6,483,000
47%	5,730,000	894,000	6,624,000
48%	5,852,000	913,000	6,765,000
49%	5,974,000	932,000	6,906,000
50%	6,096,000	951,000	7,047,000
B. AT 91% OF CRUDE CAPACITY*			
(12,179,000 b/d of crude and 148,000 b/d rerun for total refinery input of 12,327,000 b/d)			
45%	5,547,000	866,000	6,413,000
46%	5,670,000	885,000	6,555,000
47%	5,794,000	904,000	6,698,000
48%	5,917,000	923,000	6,840,000
49%	6,040,000	943,000	6,983,000
50%	6,164,000	962,000	7,126,000
C. AT 92% OF CRUDE CAPACITY*			
(12,312,000 b/d of crude and 149,000 b/d rerun for total refinery input of 12,461,000 b/d)			
45%	5,607,000	875,000	6,482,000
46%	5,732,000	895,000	6,627,000
47%	5,857,000	914,000	6,771,000
48%	5,981,000	933,000	6,914,000
49%	6,106,000	953,000	7,059,000
50%	6,231,000	972,000	7,203,000

*OGJ percent of capacity figures.

Fig. 19. (The Oil and Gas Journal, April 16, 1973, p. 56).

One major company analyst estimates that operations at 89% of capacity with a 5% growth in gasoline demand would pull stocks nearly 19 million bbl below last year at the end of September. With a 7% demand growth, the drawdown would be more than 56 million bbl.

Some analysts doubt the refining industry can sustain operations exceeding 91% of capacity for prolonged periods even if enough crude is available. The strain on aging equipment, they believe, would inevitably cause breakdowns which would bring the operating average down.

This set of circumstances explains why many observers conclude that gasoline demand this summer must be contained within the 5-6% range. The refining industry just can't keep up with constant increases in demand without renewing and expanding plants.

Refineries generally have a "swing capacity" of about four percent that can be used to increase production of gasoline. Gasoline stocks are usually built up in the early spring by one or two million barrels per week because of the anticipated seasonal surge in demand in late spring, summer, and early fall. Because of the late demand for fuel oil, however, stocks were not increased this spring. Inventories were 215 to 220 million barrels in January and had slipped to 201.5 million by May 4th. As the peak season of heavy demand is entered, that level is expected to decrease steadily.

IMPACT OF SHORTAGES

There is no question that there will be a gasoline shortage during the summer of 1973. In many areas, the shortages are already acute and show signs of becoming worse. A study by the Petroleum Industry Research Foundation, Inc. (Pirinc) has estimated the shortage to be on the order of 125,000 b/d east of the Rockies (PAD 1-4). This estimate is based on a projected increase of 5.6% in demand for gasoline, which is slightly less than the 5.7% gain in 1972. Stocks of gasoline, however, are very low because of the emphasis on fuel oil production earlier in the year. At the end of the first quarter of 1973, stocks had been built up to only 191 million barrels (Fig. 20), in contrast to preceding years when inventories were greater than 210 million barrels. If consumption increases 8% to 7.3 million b/d, gasoline inventories will be only 95 million barrels on September 30 (Fig. 21).

For the first three months of the year, the United States had only 32.4 days of reserve supply. A 34.8-day supply is generally regarded as the lowest level on which operations can be maintained without interruption. Late last summer there was a 31.4-day supply and localized shortages occurred. Even if gasoline output is maximized (refineries operating at 92% of capacity and yielding 48% gasoline), the Pirinc study predicts that there may be a drop to 29.9 and 29.4 days' supplies in the second and third quarters respectively of 1973. This can be translated into a shortage of 125,000 b/d below minimum levels.

Pirinc's 1973 forecast for gasoline

	(PAD Dist. 1-4) 1,000 b/d				
	1 Qtr.	2 Qtr.	3 Qtr.	4 Qtr.	Year
Motor gasoline and avgas					
Refinery runs (crude + unfinished)	10,375	10,474	10,613	10,613	10,520
Gasoline yields (%)	44.0	48.0	48.5	47.5	
Refinery output					
From crude and unfinished oil	4,565	5,027	5,147	5,041	4,947
From NGL	789	749	772	825	784
Refinery output—Total	5,354	5,776	5,919	5,866	5,731
Imports required	75	221	211	70	144
Net to PAD-5	−75	−70	−59	−58	−65
Supply	5,354	5,927	6,071	5,878	5,810
Demand	5,350	5,895	6,060	5,819	5,783
Stock change (million bbls)	+0.4	+2.9	+1.0	+5.4	+9.8
Stocks—End of quarter (million bbls)	191	193.9	194.9	199.3	
Days supply*, 1973	32.4	32.0	33.5	35.6	

*End quarter stocks divided by next quarter demand.

Fig. 20. (The Oil and Gas Journal, April 9, 1973, p. 38).

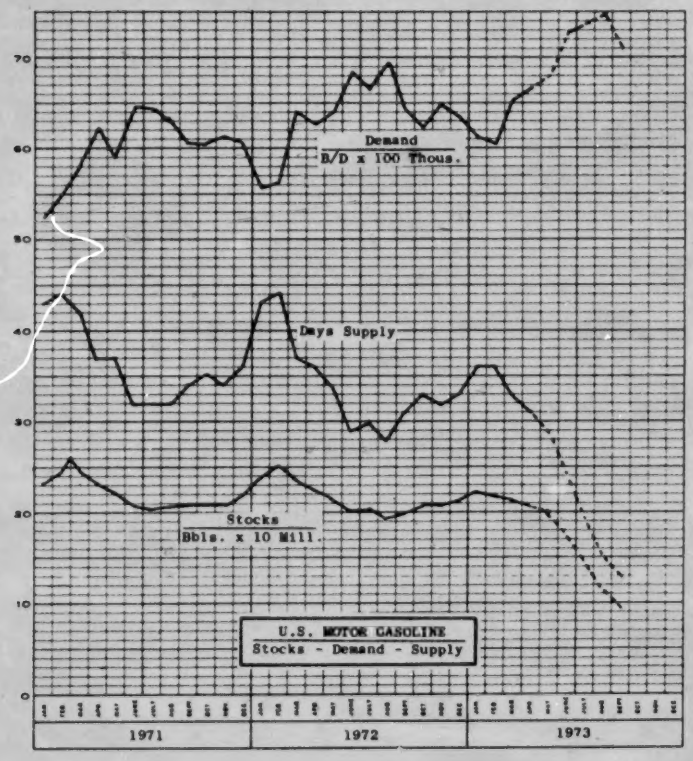

Fig. 21. (Petroleum Outlook, May 1973, John S. Herold, Inc., p. 5).

Even though the East and Midwest appear to have the most serious gasoline shortages, the West Coast (PAD 5) also has supply problems. Last year demand in District 5 grew 7.5% (well above the national average) and a 6% rise is predicted for this year. This extra demand amounts to an additional 55,000 b/d. The 43 western refineries have operated at a level low enough to permit production increase to 2,000,000 b/d, compared to 1,839,000 b/d last year. Additional increases, however, will necessarily come from imports which may not be usable by smaller independent refiners.

Impact on the Consumer

Many motorists have already found to their consternation that adequate supplies of gasoline are not available. Many gas stations have closed, others are open for shorter periods than before. Increasingly, drivers are being told that their tanks can not be filled, that they are limited instead to ten gallons. Most consumers are confused by the situation but accept it reluctantly. There was a case recently in Oakland, California, however, in which a motorist was so enraged by the refusal of the attendant to fill his car with more than ten gallons of gasoline that he returned minutes later with a shotgun and fatally shot the unfortunate attendant. While this admittedly was an extreme example, it does indicate the sensitivity of most Americans to restrictions on their traditional mobility.

As of June 1st, several major oil companies (Texaco, American, Gulf, Sun, Shell, Exxon, Phillips, Mobil, Union, Atlantic Richfield, and Cities Service) were rationing gasoline to their dealers. In some cases, this allocation is as low as 80% of last year's sales. A number of companies have begun rationing gasoline, usually in ten-gallon allotments, to individual customers. Initially, this practice was limited to company-owned stations on major tollways. As the shortage grew in extent and in intensity, these limitations were extended to franchised dealers as well.

For the most part, the average individual has so far encountered little more than occasional inconvenience. As the shortage becomes more severe, however, the consumer faces the prospect of formal rationing. The United States has had some experience with fuel rationing during World Wars I and II. A similar system, requiring printed coupons for gasoline purchases, may be necessary if present trends continue.

The Administration has stated repeatedly that rationing is not likely to be necessary during the summer of 1973. The same assurances are not extended, however, to succeeding summers. One reason for Administration reluctance to initiate a rationing system is the cost. Darrell Trent, Director of OEP, has estimated that such a system would cost nearly $200 million per year to set up and would require a staff of 12,000 people.

Nevertheless, a contingency plan has been drawn up which would be implemented within a few days of authorization. A recent amendment to the Economic Stabilization Act of 1970 gives the President rationing authority. Prior to that amendment a Presidential Declaration of national emergency was required. In such a system a priority of uses would be determined to ensure gasoline supplies to those having the greatest need. Considering the severity of the gasoline shortage and the time required for corrective measures, rationing must be considered a possibility for the next three years.

An alternative to rationing is the proposed increase in the Federal gasoline tax. This tax would have a greater impact on the consumer because in addition to the difficulty in finding supplies of gasoline, he would have to pay more for it. William Simon, Chairman of the Oil Policy Committee, has said that an increase of as much as 10¢ per gallon is being considered. That would make the total Federal gasoline tax 14¢ per gallon.

The motive for such a tax is twofold. First, it would raise revenue without an increase in the income tax, a stated Administration goal. A 10¢ increase in the price of a gallon of gasoline would probably produce an additional $9 billion.

Second, a higher tax would discourage gasoline consumption and encourage conservation. There are, however, major problems associated with such a proposal. A tax of this type is regressive in that it imposes the greatest economic penalties on those least able to pay and often upon those with the greatest need, such as farmers. Moreover, there is no certainty that the higher price would limit demand to any significant extent. Consumers may be willing to pay the higher prices to retain their life styles, regardless of cost. If that is the case, the net effect would be only to increase the cost to the consumer without achieving the desired balance between supply and demand. The wealthy would not be greatly affected by the cost increase and would still use gasoline for frivolous purposes. At the same time, low income groups would be faced with major problems such as unemployment because of difficulty in reaching their jobs.

Regardless of the specific actions taken by government and industry to ease the shortage, the price of gasoline is certain to rise. Anticipating a rise in the price of gasoline and other oil products, the Cost of Living Council (CLC) imposed price controls on the 23 major oil companies with sales over $250 million per year (76% of the industry). A major loophole in this arrangement is that the prices can be weighted so the prices on some products like gasoline can be raised more than 1.5%. In other words, there is no limit on the price of

any particular product as long as the average price increase for all of the company's products does not exceed 1.5%. If higher cost increases can be proven, the CLC can authorize larger increases. Most oil companies have already increased their prices by more than the guideline figure. Wholesale prices of gasoline have risen more in the first quarter of 1973 than in the previous twenty years. The CLC has generally permitted increases of 3.7% to 4.7% at the discretion of the oil companies. In some cases, oil companies not affected by these regulations have raised their pump prices by more than 10%. Even major brand stations which are leased rather than company-operated (as most are) are not subject to these controls.

These limited controls are temporarily inoperable because of the 60-day price freeze announced by the President on June 13. One provision that continues to epply to the 23 major oil companies is the "reseller rule" which allows increased costs of oil imports to be passed on as long as the oil is not transformed. Thus, the consumer can be charged a higher price for imported gasoline but not domestic. The increased costs of foreign crude oil, however, must be borne by the processor. Major oil companies are reluctant to import foreign oil if they incur a loss in the transaction. To encourage increases in supply, it may be necessary to include in Phase IV controls a pass-through provision.

In some respects, gasoline is an underpriced fuel. It has risen only about 1½¢ per gallon wholesale from 1962 to

1972 (from 11.55¢ to 12.87¢), an increase of only 11.4%. During that same period the average prices of all items in the Consumer Price Index rose 38.3%. Even though the price of gasoline has steadily risen, the rise has not been continuous (Fig.22). The average 1972 pump price, for example, was 36.13¢ per gallon, as opposed to 36.43¢ in 1971. The 1973 prices, however, have already risen substantially and the trend is not likely to be reversed.

Higher prices for the consumer will adversely affect many consumers. Not only will they be inconvenienced, but their livelihood may be threatened if gasoline prices rise to the 75¢ to $1.00 per gallon that some have predicted. Because of extensive decentralization of industry during the last decade, many factories are located in the suburbs, some distance from the city centers. These areas are seldom served by mass transit and car pools may not always be practical. If a worker commutes 175 miles to work each week in an automobile that averages 12 miles per gallon, 14.5 gallons will be consumed. A 50% increase in the price of gas would add $3.05 per week to his commuting costs, or 7½¢ per hour.

Perhaps even more important to the consumer is the indirect impact of the shortage on prices in general. Higher fuel costs for farmers will result in higher food prices. Transportation charges for manufactured items will rise and will be reflected

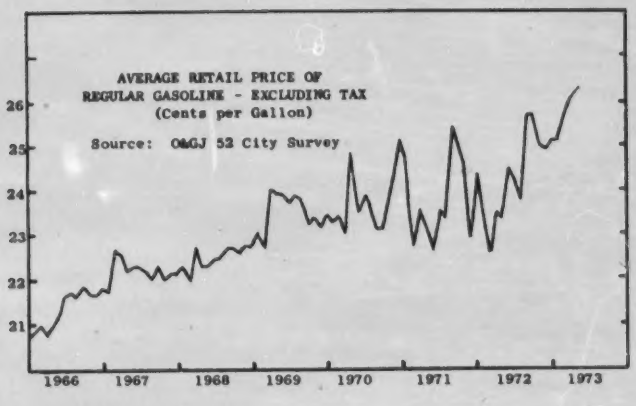

Fig. 22. (Petroleum Outlook, May 1973, John S. Herold, Inc. p. 36).

in higher prices. High prices and short supplies may lead large numbers of families to cancel vacation plans that included long trips. Many are concerned about being stranded great distances from home. Because of this, areas dependent on tourism may suffer a major loss of business and extensive unemployment could result in those areas. The State of South Dakota, for example, would lose $33.6 million in income if tourist traffic dropped 20%.

Impact on Agriculture

There is a very real danger that a prolonged fuel shortage could lead to another shortage, one of food. The increased productivity of American agriculture, in spite of a declining farm population, is due to the mechanization that has been permitted by the availability of inexpensive fuels. Abundant energy has also made possible the synthetic fertilizers which add greatly to yields. Gasoline shortages may also reduce farm production by limiting cultivation. Even more importantly, in some cases entire crops may be threatened by inadequate fuel for planting and harvesting.

Farmers used about 6.2 billion gallons of fuel in 1972, 4 billion gallons of gasoline and 2.2 billion gallons of diesel fuel. Agriculture is not, however, a major user of petroleum fuel compared to other users. In 1969, for example, 2.6 million farmers spent $1.9 billion on 6 billion gallons of

fuel. That quantity of fuel, while a significant amount, accounted for less than 3% of the total petroleum demand for that year. The percentage of total fuel demand that can be attributed to farming has remained nearly constant at 3-4% since the 1930's.

The agricultural demand for fuel has been estimated by the Department of Agriculture to rise from 6.2 billion gallons in 1972 to 9 billion gallons by 1980. This represents a 45% increase. During that same period, however, non-farm uses are expected to expand even more. This will cause the proportion used in farming to decline, although the actual consumption will continue to rise.

The demand for agricultural fuel in 1973 has been affected by several factors. First, demand for farm production has increased and farmers have responded by planting more acres of such crops as corn, wheat, and soybeans. Second, the Department of Agriculture has authorized plantings on land that had previously been set aside, resulting in a 12% increase in acreage. Third, wet weather in the fall of 1972 prevented farmers from doing much of their field work which had to be postponed until the spring and summer of 1973. Fourth, heavy rains and floods have saturated the soil with moisture, resulting in extra work to dry the soil and to remove ruts. Fifth, farmers are increasing their use of high-powered equipment.

Perhaps the most important aspect of the agricultural fuel shortage is the compression of demand. Usually the planting season is spread over the spring and early summer. The unusually wet weather, however, has delayed much of this activity so that work that normally would be spread over several months is being done in one. This creates an abnormal peak in fuel demand that would be difficult to meet at any time. During a national shortage, it has proven in many cases to be impossible. Fuel distributors have often been unable to obtain quantities comparable to last year's, let alone the greater amount required this year.

Timing is especially critical in obtaining gasoline and diesel fuel for farmers. Any delay in crop planting beyond an optimal date has a depressing effect on yields.

Each day's delay in planting corn in the Corn Belt, for example, drops the yield by one bushel per acre per day from May 1st through May 15th, and two bushels per acre per day from May 15th to June 1st. Production costs, however, remain the same and are likely to be reflected in higher market prices.

The voluntary allocation plan announced by Mr. Simon on May 22 was designed, in part, to alleviate the problem of farm fuel shortages. Farmers were given top priority in this system. Under its provisions, the major oil companies are asked to supply to all of their historical customers the same amount provided

in the last quarter of 1971 and the first three quarters of 1972. This was intended to aid the independent marketers, who supply many farmers with their fuel. This voluntary system may be made mandatory if the present system does not work. Present indications are that voluntary guidelines have not been effective and that mandatory allocations may be warranted. Strict legislation to that effect has been introduced and acted upon in Congress to ensure that farmers have the fuel they need.

Impact on Independent Marketers

Although the gasoline shortage has affected many groups, the most severe impact has been on the independent marketers. This segment of the industry consists of "private brand" marketers and independent distributors of "branded" gasoline. Together, they account for 30% of the total market. Because most integrated oil companies give market preference to their own dealers, the independents usually feel the impact earlier and with greater intensity than the rest of the market.

The impact on private brand marketers has been especially severe. This is due primarily to the dependence of these marketers on gasoline produced by the major refiners in excess of the needs of their integrated or branded distribution channels. The availability of this gasoline on the "spot" market made it possible for the independents to sell at lower prices under their own names. This was beneficial to the industry because it kept gasoline sales competitive, and it allowed the refiner to operate at a more efficient rate. During a period of shortage, however, the refiner gives priority to his own or controlled outlets. When no surplus exists, the independents have no source of supply and, consequently, nothing to sell. Many independents are currently in that predicament. The ramifications of this

shortage on the independents has been well-described by the Petroleum Industry Research Foundation in its report "The Near-Term Outlook for Gasoline and its Impact on Independent Marketers:"

> ...When the gasoline shortage begins to affect the availability of branded gasoline, the refiner can be expected to reduce first his branded supplies to non-integrated outlets. Thus, a number of independent branded gasoline distributors have already been informed that their contractual volume this year will be either the same or less than last year. Since spot gasoline cargoes are currently not economically available, some of these distributors will have to curtail their operations.
>
> To what extent the independent market segment will be affected by the shortage over the next three years depends of course on the scenario chosen. It is clear, however, that if the independents must increasingly rely on imports and if the cost of imports remains higher than domestic gasoline prices, the independents must raise their prices relative to those of the integrated distributors. This will cause them to lose market shares to integrated companies. While the extent of this loss is subject to speculation, one possible scenario is to assign all the growth in the market to the integrated refiners (the "majors") while maintaining the volume of the independent segment at its level of 1972. Needless to say, this is not a recommended scenario but it provides the opportunity to analyze the supply situation of the independents under a no-growth assumption until 1975. Assuming a 30% market share for the independents, the comparable figures for 1972 and 1975 will look as follows:

Total Motor Gasoline Demand
(000 b/d)

I-IV

	1972	1975	Growth Rate
Independents	1,632	1,632	0.0%
Integrated Refiners	3,807	4,724	7.5%
	5,439	6,356	5.3%

> Under the most optimistic supply case, we forecast that refiners in 1975 would produce 5,971,000 barrels daily (excluding an estimated 34,000 b/d of aviation gasoline) of which 64,000 b/d would be shipped to PAD V [the West Coast]. After meeting the entire demand of the integrated companies this would leave 1, 183,000 b/d for the independents or 449,000 b/d less than they will require even under our no-growth assumption for this group. Thus, in order to maintain their existing level of operations they would have to import about 450,000 b/d in 1975. Additional imports of 29,000 b/d will be required to maintain stock levels at the 1972 ratio of 34.8 days of supply, making for total imports of 478,000 b/d.
>
> These import requirements could well fall 150,000-200,000 b/d short of available foreign supplies. If the entire shortfall has to be borne by the independent segment, it could reduce their actual volume in 1975 by at least 10% below last year's. This would reduce their market share over the next three years from 30% to 23%.

The independent marketers do not obtain all of their products from the major oil refiners. There are many independent refineries that exist solely to supply independent marketers. The capacity of these refineries is small compared to that of the majors but it is significant, particularly in the Midwest. If these refineries were operating at full capacity and supplying the independents with gasoline, there would be essentially no shortage. The problem, as was mentioned earlier, is that the major oil producers in the U.S. claim that they barely have enough domestic crude oil to operate their own refineries. The majors are reluctant to release domestic oil if it cannot be replaced with foreign "sweet" crude, which is in short supply

worldwide because of rising demands in foreign countries and because of production controls imposed by Middle Eastern producing states. Many independent refiners are too far inland to import foreign "sweet" crude on their own, even if it were available.

Before the fuel oil and gasoline shortages brought about the demise of the Mandatory Oil Support Program, the independent refiners held an advantageous position. Because of a "sliding scale" method of allocating import licenses, the independents received more than a proportionate share of import tickets which allowed the import of certain quantities of crude oil duty-free. Because foreign oil was cheaper than domestic and had no tariffs imposed, these tickets had monetary value. The independents exchanged them to the majors, who had facilities for processing foreign oil, in return for domestic oil. When the oil shortages forced prices upward, however, these tickets lost their value. Foreign oil, in fact, has become more expensive than domestic oil. Under these conditions, there was no incentive on the part of the majors to trade away domestic oil when they would lose money on each transaction. The majors at the same time are reluctant to part with their crude oil supplies when they are under intense pressure to increase their production. In many areas, local air quality standards have compelled refineries to use low-sulphur crude oil, making it

that much more difficult for the independent refiners to obtain the type of oil they need. The new fee-license system may be a partial remedy to this situation in that it maintains a ticket system that gives the independents something to trade for domestic oil, although they have complained that the ticket value is too low. It is doubtful that the new import plan will be totally successful in freeing domestic oil for use in independent refineries.

Because this shortage is likely to persist, Congress passed an amendment to the Economic Stabilization Act of 1970 which provided the mechanism for an oil products allocation system. Administered by the Interior Department's Office of Oil and Gas, the program is voluntary but may be made mandatory if circumstances require. On May 10, 1973, the program was described as follows by Deputy Treasury Secretary Simon before the Senate Committee on Banking, Housing and Urban Affairs:[1/]

> THE program for allocation of crude oil and refinery products will be voluntary but backed up by:
>
> (1) Guidelines established by the Government.
>
> (2) A mechanism for providing continuing scrutiny of compliance with these guidelines.
>
> (3) The threat of imposition of more stringent regulations requiring reallocating crude oil and products should this program fail.
>
> General policy direction will be vested in the Oil Policy Committee; day-to-day administration of the program, in the Office of Oil and Gas (OOG). An oil-allocation section shall be established in OOG to administer the program.
>
> Under the program, each producer, refiner, marketer, jobber and distributor will agree to make available in each state to each of its customers (including those purchasers in the spot market) the same percentage of its

1/ The Oil & Gas Journal, May 21, 1973, pp. 72-73.

total supply of crude oil and products that it provided during each quarter of a base period (defined as the fourth quarter of 1971 and the first three quarters of 1972).

Supply preemption. Under the program, OOG may assign to each producer, refiner, marketer, jobber, and distributor allocations for priority customers still unable to obtain needed supplies of crude oil and products, not to exceed 10% of any supplier's total sales of crude oil and products during the base period.

This assignment by OOG will be based upon demonstrated need. The basic purpose of the assignment is to assure adequate supplies of crude oil and products to priority users who, for some reason, are not well served under the proportional allocation program.

It will be particularly important for fulfilling the needs of new customors that have entered the marketplace since 1971-72.

Consumer priorities. In distributing the oil for OOG allocation, priority will be given to supplying the following activities or to independent marketers, jobbers, and refiners who supply the following activities:

1. Farming, dairy, and fishing activities and services directly related to the cultivation, production, and preservation of food.

2. Ford processing and distribution services.

3. Health, medical, dental, nursing, and supporting services except commercial health and recreational activities.

4. Police, fire fighting, and emergency-aid services.

5. Public passenger transportation, including buses, rail, intercity and mass transit systems, but excluding tour and excursion services.

6. Rail, highway, sea and air freight transportation services, and transportation and warehousing services not elsewhere specified.

7. Other state and local-government activities.

8. The fuel needs of residents in states or parts of states not well served by major oil companies and unable to obtain sufficient crude oil or products.

Wholesale and retail marketers of gasoline shall not be deemed priority customers unless they supply a substantial proportion of their product to these priority users.

When convenient, various companies may exchange supply obligations incurred under this program in order to simplify distribution problems.

Complaint procedures. The Office of Oil and Gas will receive complaints from anyone who feels he is not receiving a proper allocation of supplies.

If it deems it necessary, OOG may require a public hearing and submission of data, by suppliers, on their 1971 and 1972 exchanges and/or sales of crude oil, unfinished oils, and products. These data will include the names and addresses of customers, the amounts of crude oil and products sold to them, the legal relationship between major oil companies and customers, and whatever other information OOG believes necessary to conduct the hearing.

OOG will then verify the accuracy of complaints against a supplier and, if justified, impose mandatory allocation on the supplier.

Prices. The price at which petroleum products shall be sold to independent marketers, wholesale distributors, and other unaffiliated customers shall not exceed normal refinery rack prices charged by major companies to new contract customers.

The price which wholesale distributors may charge independent marketers shall not exceed normal wholesale prices, or normal refinery rack prices plus a normal wholesale markup.

Where independent refiners have previously received domestic crude oil in exchange for import tickets, the independent refiners will be required to surrender license-fee-exempt quotas in return for receiving the privilege of purchasing crude oil under the program. Where the independent refiners previously purchased crude oil without surrendering import tickets, no license fee exempt quotas will have to be surrendered.

The price at which crude oil shall be sold to independent refiners shall not exceed posted crude-oil prices plus an applicable pipeline-transportation charge except, however, where crude oil is sold as required based upon previous exchanges of import tickets for domestic oil, the major companies may charge a price equivalent to the average landed cost of any oil imported to replace the oil sold under the provisions of this program.

Hearings. Immediately following the initiation of this program, the Oil Policy Committee shall begin hearings to determine any changes that may be required to make the program equitable to all classes of suppliers and purchasers, and whether the program should be made mandatory.

The chairman of the Oil Policy Committee will designate an ad hoc board to conduct such hearings and report its findings to the Oil Policy Committee.

The board shall be composed of representatives of the Interior, Treasury, and Commerce departments, GSA/OEP, and any other representatives as the chairman of the Oil Policy Committee may feel appropriate. The chairman of the Oil Policy Committee shall designate the chairman of this board.

The Oil Policy Committee will also investigate and recommend additional measures that should be undertaken to encourage allocations by major suppliers. For example, it will investigate changes in Cost of Living Council rules and environmental standards and regulations that seem necessary to assure efficient utilization and equitable distribution of crude oil and products.

Because the allocations are based on historical purchases, many existing contracts will be broken. Branded jobbers, who are also independent businessmen, are concerned that products will be shifted from them, despite existing contracts, to private-brand spot buyers. The voluntary program is considered by the Office of Oil and Gas to have the effect of a "force majeure" which would permit compliance with government-ordered

allocations to be used as a defense in antitrust or breach of contract suits. The problem of breaking existing contracts was apparently recognized but considered necessary in order to "share the shortage". The Office of Oil and Gas has discouraged States from adopting their own separate allocation plans so that distribution can be coordinated nationally.

In spite of the voluntary allocations, the independent marketers are still having major supply problems. As of May 30th, the Office of Emergency Preparedness estimated that 1,020 retail gasoline dealers had been forced to close and that 1,914 were on the verge of doing so. A total of 40,000 independent stations are faced with the prospect of limited operations. To counteract this trend, the Senate recently passed S. 1570, an emergency measure to require action by both the Executive Branch and private industry to assure the equitable distribution of fuels in short supply. S. 1570 would make it illegal for the large integrated companies to supply their historical companies less than the amount provided during the base period. Such a mandatory allocation plan appears to be increasingly necessary because of the following disadvantages of the voluntary plan: (1) economic gains can be made by withholding supplies as the shortage becomes more

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serious, (2) cooperation is penalized, (3) equitable geographic distribution is unlikely, (4) compliance may be in conflict with programs established by State or local government, (5) implementation is dependent on private decisions and does not generate maximum public confidence, (6) existing contracts cannot voluntarily be superseded, and (7) market-sharing activities are encouraged which may be in violation of antitrust laws.

The supply problem of the independents has generated speculation that the gasoline shortage might be artificial rather than real. There is no doubt that, in either event, the major petroleum companies are reaping four major advantages: First, competition from the independent marketers is eliminated through supply starvation or reduced through lower price differentials; second, the majors have been able to exercise greater control over their franchised dealers by limiting supplies or imposing other restrictions; third, the majors have benefitted from the unprecedented price increases in the price of gasoline due to the imbalance between supply and demand as indicated by record first quarter earnings; fourth, the oil industry has an issue with which to counter environmentalists in disputes of air quality regulations and refinery siting.

To a very great extent, the shortage is real. Domestic production has levelled off and foreign "sweet" crude is difficult to find on the international market. The extent and intensity of the shortage, however, may have been aggravated by industry practices. The Oil and Gas Journal noted on April 16, 1973, that:

> In many cases, the shortages are more anticipated than actual. They reflect actions by major suppliers who are changing their marketing methods to fit new conditions. The suppliers, in effect, already are imposing some rationing at the wholesale level. It is taking many forms: cutting back jobbers and dealers by a percentage of 1972 volume, or holding them to 1972 levels, or cutting out sales on the spot market, or holding industrial accounts strictly to contract levels or even refusing to renew contracts, and declining to take on new business.
>
> In addition, many suppliers are dropping some of their old business. They aren't bidding on fuels contracts for governmental agencies or some industrial accounts that go for discounted prices.

A number of major oil companies are currently involved in a process of market consolidation. While there is no evidence to date that the abandonment of regional markets is a result of collusion on the part of the majors involved, it does work to their mutual advantage by reducing competition. Sun Oil has abandoned Tennessee and eight Midwestern States. Gulf has spent $250 million on a 13-State pullout. Amoco has left its market on the West Coast,

BP and Phillips in the Northeast, and Arco in the Southeast. Exxon is closing 150 of its 400 retail stations in Illinois, Michigan, Wisconsin, and Indiana. Gulf is selling 3500 stations in 21 States from Illinois to California. Other companies have selectively reduced their marketing activities in other regions. The reason offered by these companies is that these operations are marginal, unprofitable, and too far from the refineries. They consider the consolidation a means of correcting their overextension.

Another marketing tactic which has disturbed the independent marketers is the attempt by the majors to establish their own chains of discount stations. The fact that the majors are getting into the discount business at a time when the independents are being forced out has led many to question the legitimacy of the shortage. Exxon is currently marketing discount gasoline under the brand name "Alert" in four States. Gulf is also selling under two labels, "Economy" and "Bulko". Shell sells under the name "Ride", Mobil under the name "Cello" Phillips under the names"Blue Goose" and "Red Dot".

To some extent, market penetration this way may be a justifiable business venture. The market percentage held by most major oil companies has dropped in recent years, while that of the independents has risen. In 1972 the majors sold 74.4%

of the Nation's gasoline and the independents 25.6%. That was a gain of 2.07% over 1972 and represented a steady encroachment on the major petroleum companies' share of the market. In that context, the move toward discount marketing may be a move by the majors to preserve their market rather than an attempt to drive the independents out of business.

The branded dealers are not, in general, sympathetic to the current plight of the independents. The turnover rate of the branded dealers is about 33% per year; seven times more franchised dealers go out of business each year than do independents. Because the independents have bought surplus gasoline at lower tankwagon prices from the same suppliers that serve branded dealers, they are often considered parasitic. The branded dealers feel that the independents have been stealing their customers by price alone since their costs were lower. Now that a seller's market prevails, the branded dealers resent sharing their products with independents. They especially object to the independents' demand that the same price advantage be maintained.

The retail marketing practices of both groups are already changing in response to the shortage. Gas wars are generally a thing of the past. Giveaway promotions, trading stamps, and

even maps may be discontinued. Credit card purchases, which add 1.5¢ to 2.0¢ per gallon, were originally encouraged as an inducement to buy gasoline and may be dropped by many retailers. The trend in gasoline retailing appears to be toward minimizing costs by emphasizing large volume outlets and promoting self-service facilities.

PROPOSED REMEDIAL ACTIONS

In any shortage situation there are two courses of action, increase supply or reduce demand. In the case of gasoline, neither of these alternatives appear to be easily accomplished. To the extent that efforts in either category are effective, however, the severity of the shortage can be reduced. All of the following are discussed as proposals and are not necessarily advocated by the author or CRS.

Proposals to Increase Supply

A number of actions have been taken recently which would hopefully have the effect of increasing supply, either through increased domestic production or foreign imports. These actions have been discussed in the Section on Supply. For the short term, it appears that foreign imports represent the only major means of increasing supply. Even imports may encounter delays due to tanker availability and the lack of deep-water ports in the U.S. Several other specific suggestions have been made for increasing supply. The time frames for all of these actions vary but most must be considered mid-term to long-term actions.

A Pass-through Allowance for Imported Crude Oil

Under the current CLC restrictions and the price freeze, increased costs of oil products can be passed on to the consumer but higher prices for crude oil cannot. Because of this, there is a reluctance on the part of the oil companies to import oil

at a loss. Since crude oil is vitally needed to maintain maximum refinery output, such an action may stimulate throughput.

Oil Exploration Assistance

Because of the high costs associated with the search for crude oil, exploration efforts have diminished. If lease and bonus payments were available for use in exploration and development, industry could expand its efforts to find additional reserves.

North Slope Oil

Alaska possesses one of the major untapped oil reserves in the world. Addition of this oil to existing supplies would significantly alleviate current shortages. If a pipeline route were agreed to and construction begun soon after, Alaskan oil could be entering the market within five years.

Oil Depletion Allowance

This major tax advantage was designed to offset the costs incurred by oil companies in exploration and development of new sources of oil to compensate for those that had been exhausted. Not all of the money saved through the allowance, however, is used for that purpose. A requirement that a percentage of the tax savings be used for oil exploration has been suggested as one means of increasing such activity.

Oil Storage Reserves

The gasoline shortage in many areas has been especially severe because of distribution problems. If adequate storage

facilities were strategically placed around the country, the effect of such shortages could be substantially reduced. In many cases the stored supply might be sufficient to provide fuel for a region through periods of high demand. Furthermore, gasoline would be immediately available for emergency allocation to farmers and other high priority users. Legislative proposals have been made which recommend a 90-day reserve storage capacity.

Development of Outer Continental Shelf

A very significant reserve of oil, although no one knows precisely how much, lies immediately off our coasts, near major refineries. Very little of this area, less than 5%, has been developed and most of that activity has been concentrated in the Gulf Coast region. Extensive reserves are believed to lie off the U.S. Atlantic coast. Preliminary surveys have indicated that potential of that area is much greater than previously estimated. Development of the area would require stringent environmental controls but could conceivably improve the petroleum resource position of the U.S. and reduce dependence on foreign imports.

Oil Shale

The U.S. has a large quantity of untapped domestic oil in the oil shale deposits of Colorado, Utah and Wyoming. These oil reserves may be as large as 600 billion barrels. Development of these resources would have obvious national security and balance-of-payments advantages. In addition, the oil is located near

areas in the Midwest where refineries are operating at levels well below their capacities. Conversely, a great deal of environmental disruption would take place from the mining necessary to process the shale, although experiments are being conducted to determine the feasibility of extracting the oil from the shale in place. At present shale oil costs more per barrel than foreign oil but that differential is diminishing. Economies in scale would be realized by large scale operations that could be expected to reduce the costs still further. The extensive tar sands in Canada are a similar resource that could be developed.

Synthetic Oil

Oil can be made from coal, which the U.S. has in great abundance. Pilot plants have shown the feasibility of conversion, but the costs are currently higher than imports. As the price of foreign oil rises and the conversion cost decreases, production of synthetic oil may become significant in the next several decades. Considerable research, however, remains to be done.

Increased Use of Coal

In many ways the supply and demand situations for oil fuels are interrelated. If the demand for one fuel exceeds the supply, the excess demand is transferred to another fuel which, in turn, reduces the supply of that fuel as well. For example, the rapid

increase in oil demand was due in large part to natur[al gas] users switching to oil when gas service began to be c[urtailed] in the late 1960's. The United States has large quan[tities of] coal, in fact, some of the richest deposits in the wo[rld.] Greater use can be made of coal directly and through [gasifi]cation and synthesis. Relaxation or deferral of seco[ndary] air quality standards and wider use of stack gas clea[ning] systems would ameliorate the coal utilization situati[on in the] electric utility industry. Since many industries and [electric] utilities burn oil when coal could be used as an alte[rnative, an] increase in the use of coal could considerably reduce [the demand] for oil.

Increased Use of Nuclear Power

Because a great deal of the oil used in the U.S. is consumed in the production of electricity, an increase in the percentage of electricity produced with nuclear power would reduce the demand for oil. Construction of nuclear powerplants has been slowed by several factors, including delays in licensing. If the process could be streamlined and accelerated there could be a reduction in the demand for oil.

Efficiency of Industry Operations

A significant amount of oil is left in the ground after extraction has been completed. In some cases at least, secondary and tertiary recovery of that oil may be possible through gas

injection and other procedures. A great deal of energy is also unnecessarily lost in refining operations. By using better mechanical energy conversion methods, better process energy conversion, and improved process heat recovery, most refineries could reduce energy consumption by as much as 20%.

Deregulation of Natural Gas

If artificial price constraints were removed from natural gas, more exploration and development money would be available from revenues and perhaps equally importantly, there would be a more equalized competitive price structure between the various fuels and lower order uses of gas would be discouraged. Recent FPC decisions have greatly increased the price of natural gas sold in interstate commerce. If the increased price does result in increased availability of natural gas, pressures on oil supply might be reduced.

Proposals to Reduce Demand

Taxes

Most of the gasoline consumed in the United States is used in automobiles. The average American automobile is heavy, highly powered, and sometimes inefficient. To encourage the industry to build and the public to buy smaller, more efficient cars, several tax proposals have been made. There could be, for example, a tax that would be directly proportional to the weight and horsepower of each new car. Ideally, this would provide an economic incentive to purchase economy cars. In that same connection, it might also be appropriate to require the expected gasoline consumption to be printed on the price sticker so that a prospective purchaser could include that factor when comparing cars. An increase in the Federal gasoline tax has been suggested as an additional means of reducing demand, although there is some question that demand would be significantly reduced by higher prices. Most people would probably grudgingly pay the higher prices without substantially altering their consumption. Because the tax would be regressive, it would impose a severe economic penalty on groups with legitimate needs for gasoline but with limited means of paying for it.

Four-Day Work Week

A large amount of gasoline is consumed by automobiles and buses in transporting people from their homes to their jobs.

The energy loss is especially great when rush-hour traffic jams occur. A four-day work week could reduce the amount of energy needed for commuting by 20% by eliminating one commuting day.

National Speed Limit

Automobiles consume 11% less fuel when driven 50 miles per hour instead of 60 and 25% less when driven 50 instead of 70. A reduction in speed limits, therefore, could reduce fuel demand. Problems could be expected, however, with enforcement and with the cost of changes in existing signs.

Mass Transit

If most commuters had access to mass transit and used it, a substantial reduction could be made in fuel consumption. Many people do not feel that mass transit is sufficiently convenient or inexpensive to represent a real alternative to driving to work. To be successful, a mass transit system would have to have low fares, possibly even no fares if heavily subsidized, and an adequate network to serve each urban community. The savings in highway construction and in air pollution would be great, as would the time and money saved by the commuter.

Improved Building Design

Large quantities of oil are wasted every year in heating, cooling, and producing electricity for poorly designed office buildings. Large glass areas are attractive but allow considerable

heat transfer. Buildings have been designed with energy conservation in mind, and the savings in fuel costs can be considerable. If most new buildings were constructed to conserve energy, the demand for oil could be much less than if current practices continue.

Airline Efficiency

The jet aircraft is one of the least efficient means of transportation in terms of fuel expended per passenger mile, although it does offer convenience and speed in return. Many airlines fly planes with a very small number of passengers. Quite often another plane of a different airline will also be flying the same route with a small load. If such flights were coordinated so that planes could fly with greater loads and so that unnecessary flights could be dropped, a substantial amount of fuel could be saved.

Energy Conservation

The greatest potential for reducing demand lies with the public. Most people are accustomed to having gasoline available whenever and wherever they want it. Unless the individual begins to practice energy conservation, however, gasoline shortages may become even more acute than they are now. In that case, gasoline might not be available for even the most important purposes. The following suggestions from the American Motorist (June 1973) can be used by the individual to conserve gasoline:

– Form car pools for office commuting.

– Combine short trips. When taking children to school, or picking up your spouse after work, take care of shopping errands on the same outing.

– If you're considering buying a second car, make it smaller. Vehicle weight has a great effect on gasoline consumption.

– Keep the car's engine in tune. Special attention should be given to fuel and air filters, plugs and points and, in late model cars, emission control devices.

– Don't fill your fuel tank to the neck. Fuel can overflow while the car is in motion or when parked on an incline. Fuel also can expand and overflow in hot weather even if the car is parked on level ground, so instruct the service station attendant not to "top off the tank."

– Make certain tires are properly inflated. This also saves on tire wear. Add extra pounds of air when traveling with a full load, but do not exceed the maximum pressure listed on tire sidewalls.

– Drive at moderate speeds whenever possible. Gasoline mileage is greatly affected by speed.

– Avoid "jack rabbit" starts. Always accelerate gradually as though you had an egg between your foot and the accelerator.

– Drive at steady speeds whenever possible, as stop-and-go driving also increases fuel consumption. Anticipate traffic signals to minimize braking and acceleration.

– When entering a freeway, take full advantage of acceleration paths so that you can gradually reach highway speeds, rather than having to "floor board" the accelerator to reach cruising speed.

– Avoid accelerating hard when going up a hill; instead, build up adequate speed ahead of time.

– After starting a cold engine, don't use long warm-up periods: instead, drive slowly for a mile or so before reaching cruising speed.

– Don't allow the engine to idle for more than a minute while parked.

– Cut down on use of the air-conditioner by beginning your travel day earlier in the morning and pulling off the road during the hottest hours.

– Try to travel lighter than normally. Excess weight puts additional strain on the engine and results in less miles per gallon of gasoline.

Because of the importance of gasoline to agriculture and the limited supplies available in many areas, the U.S. Department of Agriculture has urged farmers to follow these conservation practices:

--Reduce tillage practices: (1) Don't plow if not necessary; (2) couple machines together where possible to make one trip over the field do the work of several--such as disk-plant-

apply herbicide all in one operation; (3) don't cultivate unnecessarily.

--Match tractors to the job to be done, when possible: (1) Use small tractors for the lighter jobs; (2) use diesel tractors where possible because gasoline supply is tighter than diesel fuel.

--Operate equipment at the proper engine and field speeds.

--Keep tractor and equipment properly tuned for maximum fuel efficiency.

--Shut the engine off if the machine is likely to be stopped for some time. Idling will often use more fuel than restarting the motor.

--If possible, move large equipment by truck instead of driving it several miles over the highway.

--Postpone operations such as ditch clearing and land leveling when possible, even for just a few weeks, until the fuel situation improves from the present peak-use period.

--Work the field the long way of the field when possible, to cut down the number of turns that result in inefficient use of fuel.

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SUMMARY

The gasoline shortage is the result of several factors acting in conjunction. Limited refinery capacity, flagging domestic production, and a worldwide shortage of low-sulphur crude resulted in restricted supplies. At the same time demand was rising at rates much higher than before. This imbalance, if it continues, could create serious economic problems. The gasoline shortage has already had a major impact on consumers, farmers, and independent marketers. Unfortunately, there are no quick or simple solutions. The only short-term relief is likely to come from imports of foreign oil and oil products and through conservation efforts. A recurrence of gasoline shortages can be expected for at least the next three years until new refineries are built. Until such time as supply once again is sufficient to meet demand, artificial means may be needed to ensure that supplies of gasoline are allocated to those who need them for high priority uses.

APPENDIX "A"

ENERGY RELATED LEGISLATION: GASOLINE SHORTAGE

Bills and Resolutions - 93d Congress

S. 398. Mr. Sparkman, et al.: 1/16/73.
Banking, Housing and Urban Affairs.

Gives authority to the President, after public hearings, to set priorities of use and systematic allocation of petroleum products.

Changes the regulatory definition of the "working poor" from those earning $2.75 per hour to those earning $3.50 per hour.

Establishes that the Economic Stabilization Act does not authorize the President to withhold or reserve any obligational authority or any funds appropriated under such authority.

Requires business enterprises making price reports to make such reports public if the price increase is more than 1.5 percent over the price lawfully in effect for such product on January 11, 1973.

1-16-73 Referred to Senate Committee on Banking, Housing and Urban Affairs
3-14-73 Reported to Senate, amended, S. Rept. 93-63
3-19-73 Measure called up by unanimous consent in Senate
3-19-73, 3-20-73 Measure considered in Senate
3-20-73 Measure passed Senate, amended, roll call #56 (85-2)
3-21-73 Referred to House Committee on Banking and Currency
4-16-73 Measure called up by special rule in House
4-16-73 Measure considered in House
4-16-73 Measure passed House, amended, in lieu of H.R. 6168
4-16-73 Conference scheduled in House
4-17-73 Conference scheduled in Senate
4-18-73 Conference report filed in House, H. Rept. 93-148
4-18-73 Conference report considered in Senate
4-18-73 Motion to recommit conference report tabled in Senate, roll call #107 (31-35)
4-30-73 House agreed to conference report, roll call #114 (267-115)
4-30-73 Senate agreed to conference report
4-30-73 Motion to recommit conference report failed of passage in Senate
4-30-73 Public law 93-28

S. 616. Mr. Curtis: 1/31/73. Finance.

Provides for a reduced rate of tax for gasoline which contains 10 percent grain alcohol and no lead of one cent per gallon. [Amends 26 U.S.C. 4081]

1-31-73 Referred to Senate Committee on Finance

S. 1055. Mr. Tunney, et al.: 2/28/73. Commerce.

Automotive Transport Research and Development Act - Provides for, an immediate and intensive national research and development program to produce, within 3 years, a motor vehicle engine system that is clean, quiet, energy-efficient, safe, and suited to our existing patterns of life.

Authorizes the Low-Emission Vehicle Certification Board to carry out the program under this Act.

Specifies that the Board be an interagency group as defined in the Clean Air Act and be composed of representatives from the Environmental Protection Agency, the Department of Transportation, the Council of Environmental Quality and the General Services Administration.

Authorizes the Board to develop vehicles which will comply with clean air standards and future emission standards that Congress may enact to protect the public health and welfare in high-population-density areas.

2-28-73 Referred to Senate Committee on Commerce

S. 1570. Mr. Jackson, et al.: 4/13/73.
Interior and Insular Affairs.

Emergency Petroleum Allocation Act - States that the purpose of this Act is to grant to the President temporary authority to deal with a national energy crisis involving extraordinary shortages of crude oil and petroleum products or dislocations in their national distribution system.

Sets forth the objectives to be achieved by the President in implementing the authority granted under this Act. Provides that the President may delegate all or any portion of the Authority granted under this Act to the Secretary of the Interior or to the head of any other Federal agency he deems appropriate. Terminates the authority under this Act on September 1, 1978.

Provides that within sixty days of the date of enactment of this Act, the President shall cause to be prepared and published, priority schedules, plans, and regulations for the allocation or distribution of crude oil and any refined petroleum product which is or may be in short supply nationally or in any region of the United States in accordance with the objectives of this Act.

Authorizes the President to allocate or distribute or cause to be allocated and distributed, pursuant to the schedules, plans, and regulations required by this Act, any liquid fuel, whether crude or processed, and whether imported or domestically produced, currently or prospectively in extraordinarily short supply nationally or in any region of the United States.

Establishes a formula for allocation of crude oil from

major producers and importers to small independent refiners, and for allocation of petroleum products from major refiners to independent dealers and resellers. States that the President shall designate an agency to supervise compliance with the requirements of this Act and promulgate regulations hereunder.

Authorizes the head of any agency exercising authority under this section, or his duly authorized agent, for any purpose related to this Act, to sign and issue subpenas for the attendance and testimony of witnesses and the production of relevant books, papers, and other documents, and to administer oaths.

Provides that whenever it appears to the head of the agency exercising authority under this Act, or to his delegate, that any individual or organization has engaged, is engaged, or is about to engage in any act or practices constituting a violation of this Act, or any order or regulation thereunder, such person may request the Attorney General to bring an action in the appropriate district court of the United States to enjoin such acts or practices, and upon a proper showing a temporary restraining order or a preliminary or permanent injunction shall be granted without bond.

Requires the President to submit a quarterly report to the Congress including a summary and description of all actions taken under the authority of this Act.

5-13-73 Referred to Senate Committee on Interior and Insular Affairs
5-17-73 Reported to Senate, amended, S. Rept. 93-159
5-31-73 Call of calendar in Senate
5-31-73, 6-01-73, 6-04-73, 6-05-73 Measure considered in Senate
6-05-73 Measure passed Senate, amended, roll call #170 (85-10)
6-07-73 Referred to House Committee on Interstate and Foreign Commerce

S. 1586. Mr. Jackson, et al.; 5/16/73. Interior and Insular Affairs.

A bill to create a system of strategic petroleum reserves in the Department of the Interior; to limit imports of oil and natural gas to levels, sources and forms that are consistent with national security, public safety, and welfare. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-16-73 Referred to Senate Committee on Interior and Insular Affairs

S. 1599. Mr. Saxbe, et al.; 5/17/73. Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-17-73 Referred to Senate Committee on Commerce

S. 1690. Mr. Moss, et al.; 5/31/73. Commerce.

A bill to amend the Federal Trade Commission Act to regulate commerce and to assure adequate and stable supplies of petroleum products at the lowest cost to the consumer. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-03-73 Referred to Senate Committee on Commerce

S. 1723. Mr. Kennedy, et al.; 5/7/73. Commerce.

A bill to provide for the continued supply of petroleum products to independent oil marketers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-07-73 Referred to Senate Committee on Commerce

S. 1983. Mr. Hollings, et al.; 5/30/73. Commerce.

A bill to regulate commerce and conserve gasoline by improving motor vehicle fuel economy, and for other purposes. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-30-73 Referred to Senate Committee on Commerce

S. J. Res. 190

[illegible]

Directs the President, after public hearing, to provide for the establishment of priorities and for systematic allocation of petroleum products including crude oil to the domestic and commercial needs of the nation; sanctions of the United States against anticompetitive efforts to increase the price of such products. Directs the Secretary of the Interior to [illegible] of the members to [illegible] necessary rules, subject to disapproval by the President, and authorizes delegation of certain functions of this resolution.

Requires the Secretary of Commerce to establish programs to promote the conservation of domestic petroleum capacity consistent with economic requirements of environmental protection, and public awareness of the importance of the fuel shortage crisis in the United States, and voluntary action to curtail consumption of private transportation and of lighting consistent with protection of public safety.

Directs the Secretary of Interior to take such action as may be necessary to assure the equitable [illegible] shortages, establish priorities in petroleum refinery and final allocation and distribution of the United States supply of petroleum. Requires maintenance of a viable competitive domestic petroleum industry and to not commit to a foreclosure of domestic refineries from major oil companies.

Provides that the prescription provided for in this resolution shall be effective through the fiscal year ending Jan. 30, 1975.

Authorizes to the President such rules as may be necessary to carry out the provisions of this resolution.

4-16-73 Referred to the Committee on Banking, Housing and Urban Affairs.

[illegible]

H. R. 422. [illegible]

Directs the President [illegible] national defense petroleum reserves [illegible] capacity sufficient [illegible] against a continuous [illegible] the importation of petroleum from [illegible] to the United States, which [illegible] to be insecure sources.

Provides that, [illegible] the President [illegible] under other [illegible] and is authorized to [illegible] reserves and [illegible] the capacity of [illegible] reserves.

Provides that nothing [illegible] shall require or authorize the [illegible] leases, or the [illegible] been set aside [illegible] public use.

Requires the President [illegible] the Joint Committee [illegible]

1-03-73 Referred to House Committee on Banking and Currency

H. R. 1600. [illegible]

Provides, under the Internal [illegible] Code, that if gasoline which contains no [illegible] which contains no lead is sold [illegible] to an ultimate purchaser [illegible] a passenger vehicle, the Secretary of the Treasury [illegible] by [illegible] to the dealer [illegible] to 2 cents a gallon [illegible] sold. States that no person [illegible] unless such tax reduction [illegible] Amends 26 U.S.C. 6421.

1-09-73 Referred to House Committee on Ways and Means

H. R. 1592. [illegible]

Authorizes the President [illegible] to obtain fuel oil [illegible] equitable distribution [illegible]

1-26-73 Referred to House Committee on Banking and Currency

H. R. 1805. [illegible]

1-24-73 [illegible]

H. R. 4313. Mr. Hyman; 2/8/73.
Interstate and Foreign Commerce.

Modifies the emission standards required under the Clean Air Act for light duty motor vehicles and engines manufactured during or after model year 1975, to provide for a less stringent reduction of carbon monoxide and hydrocarbon emissions than that presently required.

2-08-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 3606. Mr. Railsback, et al.; 2/5/73.
Banking and Currency.

See Digest of H. R. 2552.

2-05-73 Referred to House Committee on Banking and Currency

H. R. 5004. Mr. Barrington; 3/1/73. Banking and Currency.

See Digest of H. R. 422.

3-01-73 Referred to House Committee on Banking and Currency

H. R. 5376. Mr. Hyman, et al.; 3/7/73.
Interstate and Foreign Commerce.

See Digest of H. R. 4313.

3-07-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 5929. Mr. Corman; 3/21/73.
Interstate and Foreign Commerce.

Automatic Transport Research and Development Act -- Provides for an immediate and intensive national research and development program to produce, within 3 years, a motor vehicle engine system that is clean, quiet, energy-efficient, safe, and suited to existing patterns of life.

Authorizes the Low-Emission Vehicle Certification Board established under the Clean Air Act to carry out the program under this Act.

Authorizes the Board to develop vehicles which will comply with clean air standards and future automotive standards that Congress may enact to protect public health and welfare in high-population density areas.

3-21-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 6000. Mr. Thone; 3/21/73. Ways and Means.

Provides, under the Internal Revenue Code of 1954, for a reduced excise rate on gasoline which contains [illegible] grain alcohol and no lead. [Amends 26 U.S.C. 4081]

3-27-73 Referred to House Committee on Banking and Currency

H. R. 6880. Mr. Russell; 4/5/73. Banking and Currency.

A bill to amend the Internal Revenue Code of 1954 to provide an additional [illegible] on the use of a passenger automobile [illegible]. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

4-05-73 Referred to House Committee on Banking and Currency

H. R. 7054. Mr. Fisher; 4/9/73. Banking and Currency.

A bill to establish [illegible] gasoline and diesel fuel [illegible] for sufficient fuel for [illegible]. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

4-16-73 Referred to House Committee on Banking and Currency

H. R. 7382. Mr. Roncalio; 4/16/73. Interstate and Foreign Commerce.

A bill to authorize [illegible] and development of alternative [illegible] vehicles [illegible]. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-01-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 7539. Mr. Russell; 4/30/73. Banking and Currency.

A bill to amend the Internal Revenue Code of 1954 to provide for [illegible] its fuel consumption [illegible] for public disclosure of the fuel consumption [illegible] automobiles. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-03-73 Referred to House Committee on Banking and Currency

H. R. 7583. Mr. Roncalio; 5/3/73. Interstate and Foreign Commerce.

A bill to provide for [illegible] products to independent [illegible]. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-07-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 7639. Mrs. Grasso; 5/8/73. Banking and Currency.

A bill to authorize the President of the United States to allocate energy and fuels when he determines [illegible] that extraordinary shortages or dislocations in the distribution of energy and fuels exist or are imminent and that the public health, safety, or welfare is thereby jeopardized; to provide for the delegation of authority to the Secretary of the Interior; and for other purposes. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-09-73 Referred to House Committee on Banking and Currency

H. R. 7689. Mr. Aspin; 5/11/73. Interstate and Foreign Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-15-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 7749. Mr. Crane, et al.; 5/10/73. Interstate and Foreign Commerce.

A bill to provide for the continued supply of petroleum products to independent oil marketers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-15-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 7870. Mr. Boland; 5/16/73. Banking and Currency.

A bill to authorize the President of the United States to allocate energy and fuels when he determines and declares that extraordinary shortages or dislocations in the distribution of energy and fuels exist or are imminent and that the public health, safety, or welfare is thereby jeopardized. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-16-73 Referred to House Committee on Banking and Currency

H. R. 7902. Mr. Aspin, et al.; 5/17/73. Interstate and Foreign Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-17-73 Referred to House Committee on Interstate and Foreign Commerce

H. R. 7903. Mr. Aspin, et al.; 5/17/73. Interstate and Foreign Commerce.

S. 2. 7909

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-29-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8952. Mr. Commerce; 5/23/73. Interstate and Foreign Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-23-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8960. Mr. Agency; 5/23/73. Interstate and Foreign Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-23-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8989. Mr. Assessment; 5/23/73. Interstate and Foreign Commerce.

A bill to provide for the continued supply of petroleum products to independent [illegible] (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-23-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8998. Mr. Assembly; 5/23/73. Interstate and Foreign Commerce.

A bill to provide for the continued supply of petroleum products to independent [illegible] (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-23-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8976. Mr. Senator; 5/23/73. Interstate and Foreign Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline retailers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-29-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8988. Mr. Barrington; 5/31/73. Interstate and Foreign Commerce.

A bill to provide for the continued sale of gasoline to independent gasoline wholesalers and retailers and State and local governments and governmental agencies thereof. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-31-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8511. Mr. Hyatt; 6/1/73. Public Works.

A bill to restrain the Nation's fuel consumption rate by providing for the lowering of the maximum speed limit within each State. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

6-97-73 Referred to House Committee on Public Works

S. R. 8566. Mr. Brine; 6/11/73. Interstate and Foreign Commerce.

A bill to provide for the continued supply of petroleum products to independent oil marketers. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

6-11-73 Referred to House Committee on Interstate and Foreign Commerce

S. R. 8597. Mr. McCall; 6/12/73. Interstate and Foreign Commerce.

A bill to authorize the President of the United States to allocate crude oil and refined petroleum products to deal with existing or imminent shortages and dislocations in the national distribution system which jeopardize the public health, safety, or welfare; to provide for the [illegible] authority to the Secretary of the Interior; and for other purposes. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

6-12-73 Referred to House Committee on Interstate and Foreign Commerce

H. J. Res. 301. Mr. Danielson; 2/6/73.
Interstate and Foreign Commerce.

Authorizes the Secretary of Transportation, in consultation with the agencies represented on the advisory committee established under this joint resolution, to conduct a comprehensive study and investigation of the relationship of motor vehicle size to the public interest. Provides that such study and investigation shall include consideration of: (1) the relationship between motor vehicle size and (A) pollution of the air and other components of the environment; (B) consumption of the Nation's supply of petroleum, metals, and other renewable resources; (C) the rate and frequency of motor vehicle accidents and the costs, injuries, and fatalities attendant thereto; (D) the shortage of motor vehicle parking spaces in urban and metropolitan areas; (E) the need for additional highway construction; (F) the congestion of urban roadways; (G) the needs of motor vehicle users; (H) the automobile manufacturing industry, motor vehicle insurance costs, and the various industries and businesses which supply services and goods required for the maintenance, operation, and manufacture of motor vehicles; and (I) the feasibility of motor vehicle power-plants other than internal combustion engines; (2) whether a reduction of motor vehicle size would be in the public interest; and (3) the possible means of reducing the size of motor vehicles, such as through the power of Congress to tax or to regulate interstate and foreign commerce or in any other way, and the relative costs and benefits of each such means, monetary or otherwise.

Requires the Secretary to submit interim reports from time to time to the Congress and to the President and a final report, not later than twelve months after the date of approval of this joint resolution, containing a detailed statement of the findings, conclusions, and recommendations of the Secretary, and to propose such legislation or other action as the Secretary considers necessary to carry out his recommendations.

Requires the President to appoint a Governmental Advisory Committee on the Impact of Motor Vehicle Size consisting of the Secretary who shall be Chairman and one representative each from the Departments of Commerce, Treasury, Justice, Housing and Urban Development, Interior, and Health, Education, and Welfare, the Federal Trade Commission, the Environmental Protection Agency, the Office of Emergency Preparedness, and such other Federal agencies as are designated by the President.

Provides that such Advisory Committee shall advise the Secretary on the preparation for and the conduct of the study authorized by this joint resolution.

Provides that the authority of the Secretary under this joint resolution shall terminate ninety days after the submission of his final report.

Authorizes to be appropriated, without fiscal year limitation, such sums, not to exceed $2,000,000, as may be necessary to carry out the provisions of this joint resolution.

2-06-73 Referred to House Committee on Interstate and Foreign Commerce

H. J. Res. 388. Mr. Danielson, et al.; 2/27/73.
Interstate and Foreign Commerce.

See Digest of H. J. Res. 301.

2-27-73 Referred to House Committee on Interstate and Foreign Commerce

H. J. Res. 517. Mr. Danielson, et al.; 4/18/73.
Interstate and Foreign Commerce.

See Digest of H. J. Res. 301.

4-18-73 Referred to House Committee on Interstate and Foreign Commerce

H. J. Res. 539. Mr. Fraser; 5/3/73. Ways and Means.

Requests the President to, after public hearing, provide for the establishment of priorities of use and for systematic allocation of supplies of petroleum products including crude oil in order to meet the essential needs of various sections of the nation and to prevent anticompetitive effects resulting from shortages of such products.

Creates in the Executive Office of the President an Energy Fuels Allocation Board, composed of five members, to expedite the implementation of directives by the President, as authorized by this joint resolution.

Grants the Board necessary powers to carry out the functions of this joint resolution.

5-03-73 Referred to House Committee on Ways and Means

H. Con. Res. 220. Mr. Harvey; 5/24/73.
Interstate and Foreign Commerce.

Expresses the sense of Congress that there should be an immediate reduction of all posted speed limits in excess of fifty miles an hour or more by ten miles an hour. Specifies measures which should be encouraged by Federal, State, and local governments in order to alleviate the motor vehicle fuel shortage.

5-25-73 Referred to House Committee on Interstate and Foreign Commerce

H. Con. Res. 231. Mr. Rusch; 5/30/73. Armed Services.

Concurrent resolution expressing the sense of the Congress that the National Guard and Reserve components of the Armed Forces of the United States cut back on unnecessary fuel expenditures which are not required for our national security or defense readiness. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

5-30-73 Referred to House Committee on Armed Services

H. Con. Res. 236. Mr. Broyhill (Va.); 6/5/73.
Interstate and Foreign Commerce.

Concurrent resolution expressing the sense of Congress regarding the conservation of gasoline. (BILL TITLE ONLY: DIGESTED IN SUBSEQUENT ISSUE)

6-05-73 Referred to House Committee on Interstate and Foreign Commerce

H. Con. Res. 241. Mr. Broyhill (Va.), et al.; 6/7/73.
Interstate and Foreign Commerce.

Concurrent resolution expressing the sense of Congress regarding the conservation of gasoline. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

6-07-73 Referred to House Committee on Interstate and Foreign Commerce

H. Con. Res. 248. Mr. Broyhill (Va.), et al.; 6/12/73.
Interstate and Foreign Commerce.

Concurrent resolution expressing the sense of Congress regarding the conservation of gasoline. (BILL TITLE ONLY; DIGESTED IN SUBSEQUENT ISSUE)

6-12-73 Referred to House Committee on Interstate and Foreign Commerce

APPENDIX "B"

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U. S. GOVERNMENT PRINTING OFFICE : 1973 O - 517-309